

Service
Service
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Service Manual

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1. Technical Specifications, Connections, and Chassis Overview

Index of this chapter:

- 1.1 Technical Specifications
- 1.2 Connection Overview
- 1.3 Chassis Overview

Notes:

- Some models in this chassis range have a different mechanical construction. The information given here is therefore model specific.
- Figures below can deviate slightly from the actual situation, due to the different set executions.
- Specifications are indicative (subject to change).

1.1 Technical Specifications

1.1.1 Vision

Display type	: LCD
Aspect ratio	: 16: 9
Screen size(s)	: 26" (67 cm)
	: 32" (82 cm)
	: 37" (94 cm)
	: 42" (107 cm)
	: 47" (119 cm)
Resolution	:
- for 42 and 47PFL5422D/37	: 1920(*3) x 1080p
- for all other models	: 1366(*3) x 768p
Typical contrast ratio	: 700: 1 (26")
	: 800: 1 (32")
	: 1,000: 1 (37")
	: 1,000: 1 (42")
	: 800: 1 (47")
Minimum light output (cd/m ²)	: 500
Maximum response time (ms)	: 15 (26")
	: 9 (32")
	: 6 (37")
	: 5 (42")
	: 8 (47")
Viewing angle (HxV degrees)	: 178 x 178
Tuning system	: PLL
TV Color systems	: ATSC, NTSC
Video playback	: NTSC
Cable	: Unscrambled digital cable - QAM
Tuner bands	: VHF, UHF, S-channel, Hyperband
Supported video formats	: 480i @ 60Hz
	: 480p @ 60Hz
	: 720p @ 60Hz
	: 1080i @ 60Hz

1.1.2 Sound

Sound systems	: AV Stereo
	: BTSC
	: Dolby Digital (AC3)
Maximum power (W _{RMS})	: 2 x 10 (26 and 32")
	: 2 x 15 (37, 42, 47 and 50")

1.1.3 Multimedia

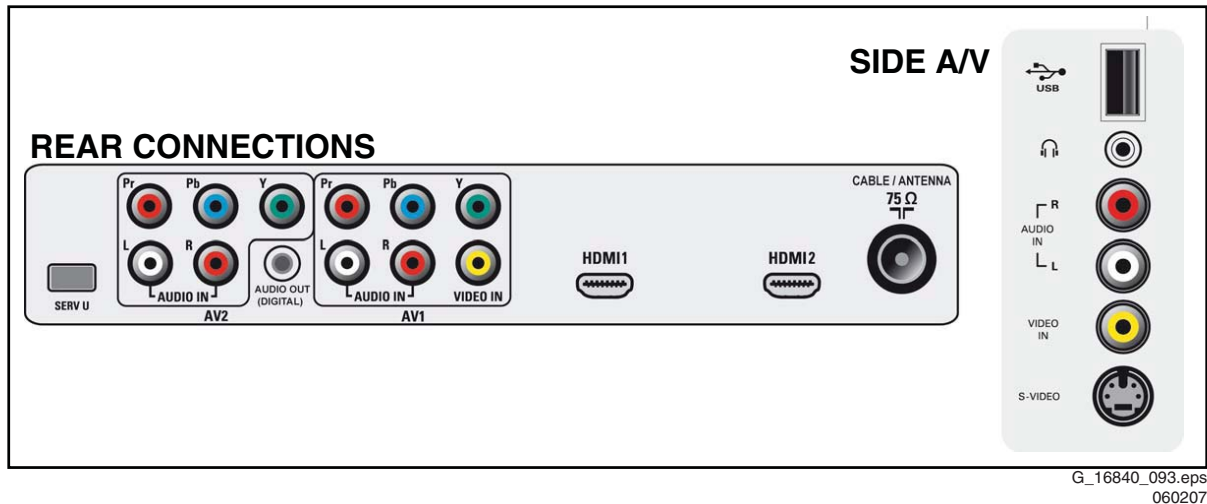
Supported file formats	: JPEG
	: MP3
	: Slideshow (.alb)
USB input	: USB1.1

1.1.4 Miscellaneous

Power supply:	
- Mains voltage (V _{AC})	: 110 - 240
Ambient conditions:	
- Temperature range (°C)	: +5 to +35
- Maximum humidity	: 90% R.H.
Power consumption:	
- Normal operation (W)	: 125 (26")
	: 155 (32")
	: 210 (37")
	: 275 (42")
	: TBF (47")
- Stand-by (W)	: < 1
Dimensions (W x H x D in inches)	: TBF (26")
	: 31.7 x 24.0 x 8.3 (32")
	: 36.7 x 24.6 x 4.7 (37")
	: 41.1 x 27.0 x 4.5 (42")
	: TBF (47")
Weight, stand included (kg/lbs)	: TBF (26")
	: 18 / 39.8 (32")
	: 26 / 57 (37")
	: 32 / 70.4 (42")
	: TBF (47")

1.2 Connection Overview

Note: The following connector color abbreviations are used (acc. to DIN/IEC 757): Bk= Black, Bu= Blue, Gn= Green, Gy= Grey, Rd= Red, Wh= White, and Ye= Yellow.



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Figure 1-1 Rear and side A/V connections

1.2.1 Side Connections

USB1.1

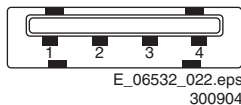
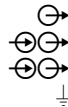


Figure 1-2 USB (type A)

- | | | |
|---|------------|-----|
| 1 | - +5V | |
| 2 | - Data (-) | |
| 3 | - Data (+) | |
| 4 | - Ground | Gnd |



Mini Jack: Audio Headphone - Out

Bk - Headphone 32 - 600 ohm / 10 mW



Cinch: Video CVBS - In, Audio - In

Ye	- Video CVBS	1 V _{PP} / 75 ohm	
Wh	- Audio L	0.5 V _{RMS} / 10 kohm	
Rd	- Audio R	0.5 V _{RMS} / 10 kohm	



S-Video (Hosiden): Video Y/C - In

1	- Ground Y	Gnd	
2	- Ground C	Gnd	
3	- Video Y	1 V _{PP} / 75 ohm	
4	- Video C	0.3 V _{PP} / 75 ohm	



1.2.2 Rear Connections

AV2 Cinch: Video YPbPr - In

Gn	- Video Y	1 V _{PP} / 75 ohm	
Bu	- Video Pb	0.7 V _{PP} / 75 ohm	
Rd	- Video Pr	0.7 V _{PP} / 75 ohm	



AV2 Cinch: Audio - In

Wh	- Audio L	0.5 V _{RMS} / 10 kohm	
Rd	- Audio R	0.5 V _{RMS} / 10 kohm	



Cinch: S/PDIF - Out

Bk - Coaxial 0.4 - 0.6V_{PP} / 75 ohm



AV1 Cinch: Video YPbPr - In

Gn	- Video Y	1 V _{PP} / 75 ohm	
Bu	- Video Pb	0.7 V _{PP} / 75 ohm	
Rd	- Video Pr	0.7 V _{PP} / 75 ohm	



AV1 Cinch: Video CVBS - In

Ye - Video CVBS 1 V_{PP} / 75 ohm



AV1 Cinch: Audio - In

Wh	- Audio L	0.5 V _{RMS} / 10 kohm	
Rd	- Audio R	0.5 V _{RMS} / 10 kohm	



HDMI 1 & HDMI 2: Digital Video, Digital Audio - In

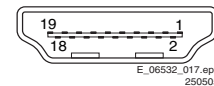
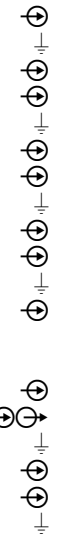


Figure 1-3 HDMI (type A) connector

1	- D2+	Data channel	
2	- Shield	Gnd	
3	- D2-	Data channel	
4	- D1+	Data channel	
5	- Shield	Gnd	
6	- D1-	Data channel	
7	- D0+	Data channel	
8	- Shield	Gnd	
9	- D0-	Data channel	
10	- CLK+	Data channel	
11	- Shield	Gnd	
12	- CLK-	Data channel	
13	- n.c.		
14	- n.c.		
15	- DDC_SCL	DDC clock	
16	- DDC_SDA	DDC data	
17	- Ground	Gnd	
18	- +5V		
19	- HPD	Hot Plug Detect	
20	- Ground	Gnd	



Aerial - In

- - F-type (US) Coax, 75 ohm



1.3 Chassis Overview

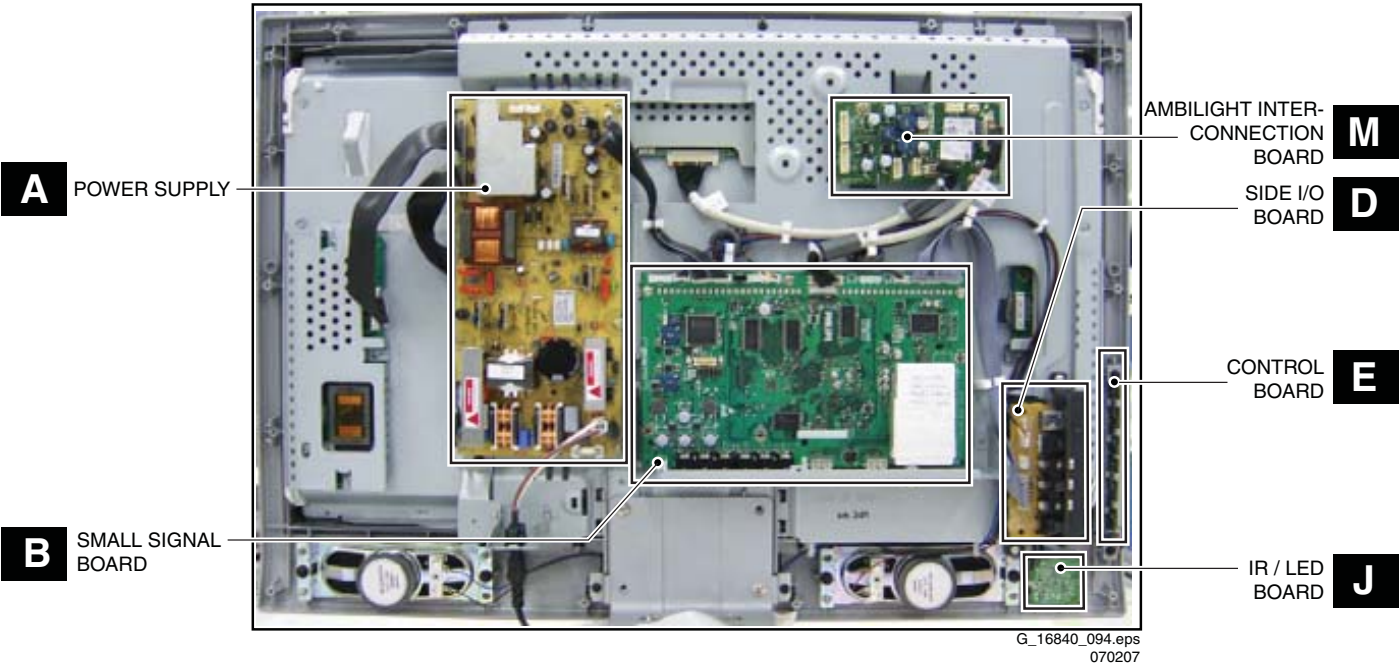


Figure 1-4 PWB/CBA locations (26-inch model)

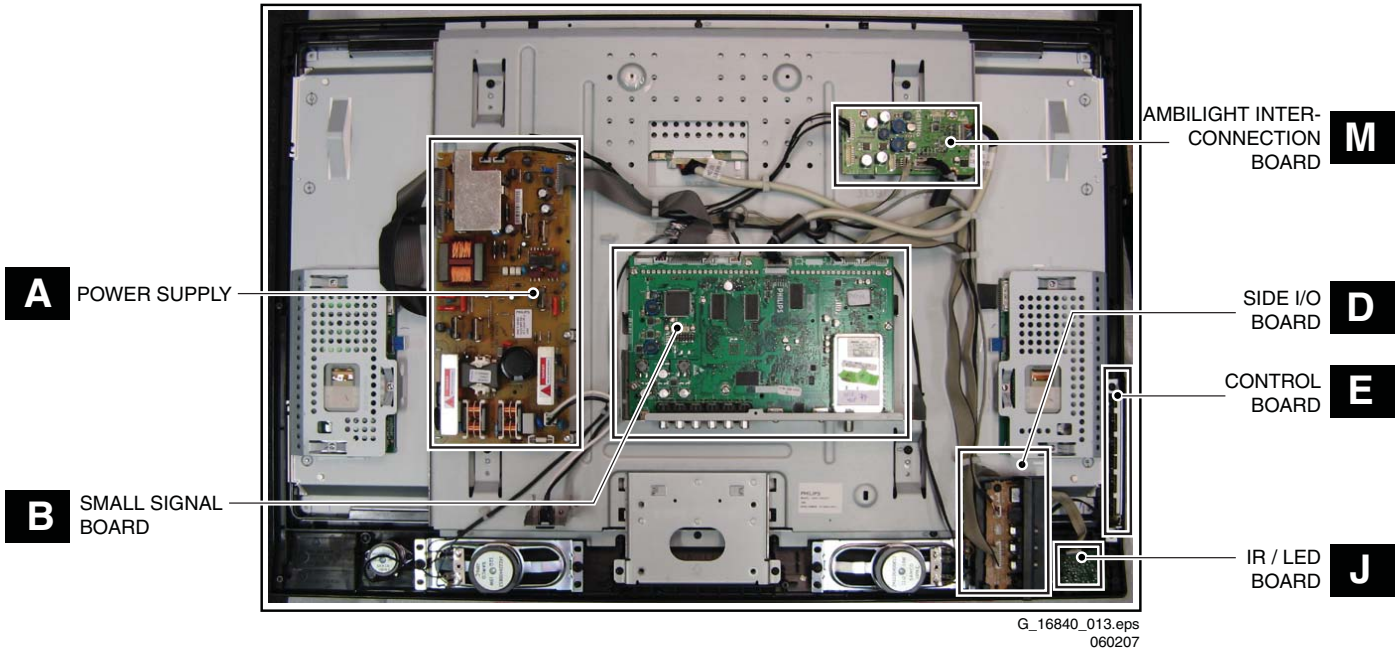


Figure 1-5 PWB/CBA locations (32-inch model)



Figure 1-6 PWB/CBA locations (37-inch model)

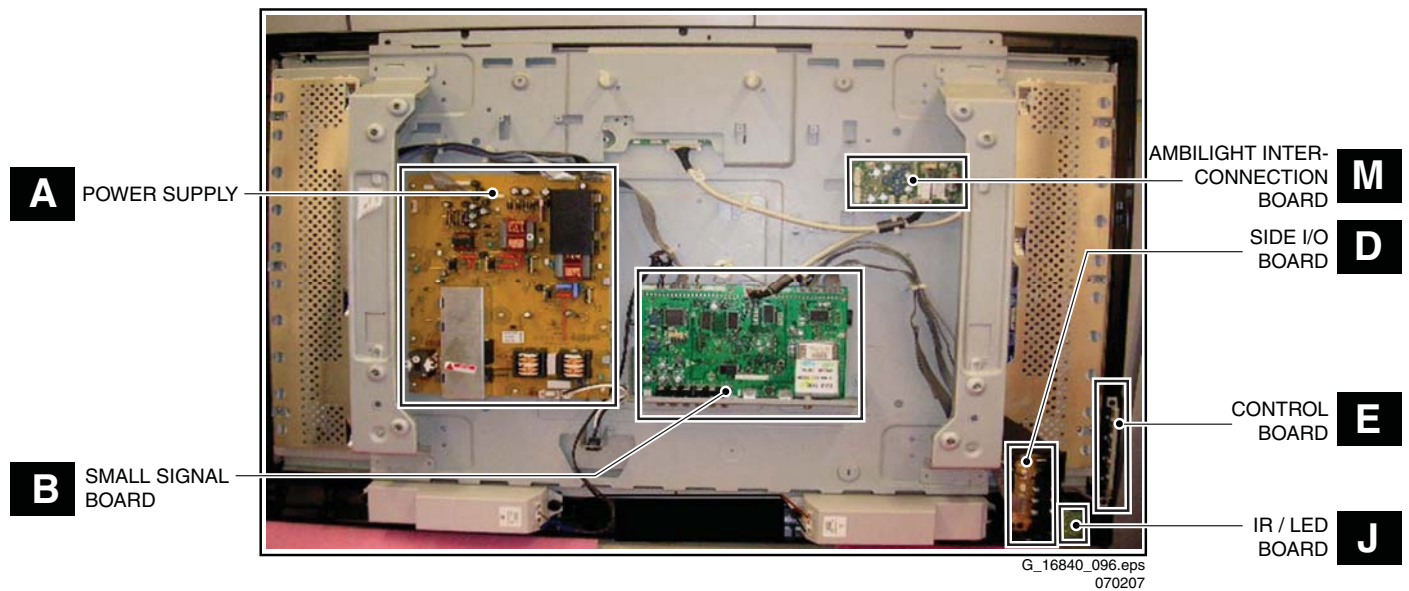


Figure 1-7 PWB/CBA locations (42-inch model)

2. Safety Instructions, Warnings, and Notes

Index of this chapter:

- 2.1 Safety Instructions
- 2.2 Warnings
- 2.3 Notes

2.1 Safety Instructions

Safety regulations require the following **during** a repair:

- Connect the set to the Mains/AC Power via an isolation transformer (> 800 VA).
- Replace safety components, indicated by the symbol , only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that **after** a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the Mains/AC Power lead for external damage.
- Check the strain relief of the Mains/AC Power cord for proper function.
- Check the electrical DC resistance between the Mains/AC Power plug and the secondary side (only for sets that have a Mains/AC Power isolated power supply):
 1. Unplug the Mains/AC Power cord and connect a wire between the two pins of the Mains/AC Power plug.
 2. Set the Mains/AC Power switch to the "on" position (keep the Mains/AC Power cord unplugged!).
 3. Measure the resistance value between the pins of the Mains/AC Power plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 Mohm and 12 Mohm.
 4. Switch "off" the set, and remove the wire between the two pins of the Mains/AC Power plug.
- Check the cabinet for defects, to prevent touching of any inner parts by the customer.

2.2 Warnings

- All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD ) . Careless handling during repair can reduce life drastically. Make sure that, during repair, you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this same potential. Available ESD protection equipment:
 - Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
 - Wristband tester 4822 344 13999.
- Be careful during measurements in the high voltage section.
- Never replace modules or other components while the unit is switched "on".
- When you align the set, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.

2.3 Notes

2.3.1 General

- Measure the voltages and waveforms with regard to the chassis (= tuner) ground () , or hot ground () , depending on the tested area of circuitry. The voltages and waveforms shown in the diagrams are indicative. Measure them in the

Service Default Mode (see chapter 5) with a color bar signal and stereo sound (L: 3 kHz, R: 1 kHz unless stated otherwise) and picture carrier at 475.25 MHz for PAL, or 61.25 MHz for NTSC (channel 3).

- Where necessary, measure the waveforms and voltages with () and without () aerial signal. Measure the voltages in the power supply section both in normal operation () and in stand-by () . These values are indicated by means of the appropriate symbols.

2.3.2 Schematic Notes

- All resistor values are in ohms, and the value multiplier is often used to indicate the decimal point location (e.g. 2K2 indicates 2.2 kohm).
- Resistor values with no multiplier may be indicated with either an "E" or an "R" (e.g. 220E or 220R indicates 220 ohm).
- All capacitor values are given in micro-farads ($\mu = \times 10^{-6}$), nano-farads ($n = \times 10^{-9}$), or pico-farads ($p = \times 10^{-12}$).
- Capacitor values may also use the value multiplier as the decimal point indication (e.g. 2p2 indicates 2.2 pF).
- An "asterisk" (*) indicates component usage varies. Refer to the diversity tables for the correct values.
- The correct component values are listed in the Spare Parts List. Therefore, always check this list when there is any doubt.

2.3.3 BGA (Ball Grid Array) ICs

Introduction

For more information on how to handle BGA devices, visit this URL: www.atyourservice.ce.philips.com (needs subscription, not available for all regions). After login, select "Magazine", then go to "Repair downloads". Here you will find Information on how to deal with BGA-ICs.

BGA Temperature Profiles

For BGA-ICs, you **must** use the correct temperature-profile, which is coupled to the 12NC. For an overview of these profiles, visit the website www.atyourservice.ce.philips.com (needs subscription, but is not available for all regions) You will find this and more technical information within the "Magazine", chapter "Repair downloads". For additional questions please contact your local repair help desk.

2.3.4 Lead-free Soldering

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free soldering tin Philips SAC305 with order code 0622 149 00106. If lead-free solder paste is required, please contact the manufacturer of your soldering equipment. In general, use of solder paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free soldering tin. The solder tool must be able:
 - To reach a solder-tip temperature of at least 400°C.
 - To stabilize the adjusted temperature at the solder-tip.
 - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature of around 360°C - 380°C is reached and stabilized at the solder joint. Heating time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C, otherwise wear-out of tips will increase drastically and flux-fluid will be destroyed. To avoid wear-out of tips, switch "off" unused equipment or reduce heat.

- Mix of lead-free soldering tin/parts with leaded soldering tin/parts is possible but PHILIPS recommends strongly **to avoid** mixed regimes. If this cannot be avoided, carefully clear the solder-joint from old tin and re-solder with new tin.

2.3.5 Alternative BOM identification

The **third digit** in the serial number (example: AG2B0335000001) indicates the number of the alternative B.O.M. (Bill Of Materials) that has been used for producing the specific TV set. In general, it is possible that the same TV model on the market is produced with e.g. two different types of displays, coming from two different suppliers. This will then result in sets which have the same CTN (Commercial Type Number; e.g. 28PW9515/12) but which have a different B.O.M. number.

By looking at the third digit of the serial number, one can identify which B.O.M. is used for the TV set he is working with. If the third digit of the serial number contains the number "1" (example: AG1B033500001), then the TV set has been manufactured according to B.O.M. number 1. If the third digit is a "2" (example: AG2B0335000001), then the set has been produced according to B.O.M. no. 2. ***This is important for ordering the correct spare parts!***

For the third digit, the numbers 1...9 and the characters A...Z can be used, so in total: 9 plus 26 = 35 different B.O.M.s can be indicated by the third digit of the serial number.

Identification: The bottom line of a type plate gives a 14-digit serial number. Digits 1 and 2 refer to the production center (e.g. AG is Bruges), digit 3 refers to the B.O.M. code, digit 4 refers to the Service version change code, digits 5 and 6 refer to the production year, and digits 7 and 8 refer to production week (in example below it is 2006 week 17). The 6 last digits contain the serial number.



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Figure 2-1 Serial number (example)

2.3.6 Board Level Repair (BLR) or Component Level Repair (CLR)

If a board is defective, consult your repair procedure to decide if the board has to be exchanged or if it should be repaired on component level.

If your repair procedure says the board should be exchanged completely, do not solder on the defective board. Otherwise, it cannot be returned to the O.E.M. supplier for back charging!

2.3.7 Practical Service Precautions

- **It makes sense to avoid exposure to electrical shock.** While some sources are expected to have a possible dangerous impact, others of quite high potential are of limited current and are sometimes held in less regard.
- **Always respect voltages.** While some may not be dangerous in themselves, they can cause unexpected reactions that are best avoided. Before reaching into a powered TV set, it is best to test the high voltage insulation. It is easy to do, and is a good service precaution.

3. Directions for Use

You can download this information from the following websites:

<http://www.philips.com/support>

<http://www.p4c.philips.com>

4. Mechanical Instructions

Index of this chapter:

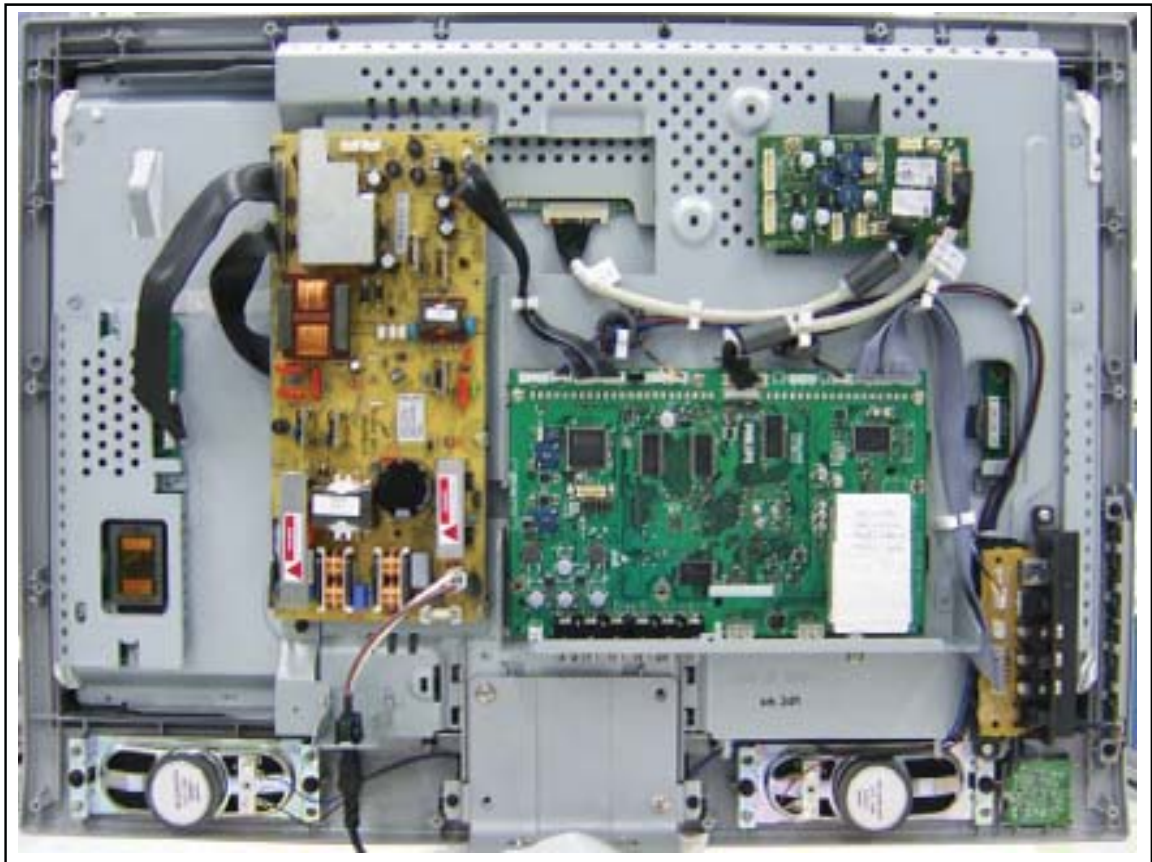
- 4.1 Cable Dressing
- 4.2 Service Positions
- 4.3 Assy/Panel Removal
- 4.4 Set Re-assembly

Notes:

- Several models in this chassis range have a different mechanical construction, the instructions given in this chapter are therefore very model specific.

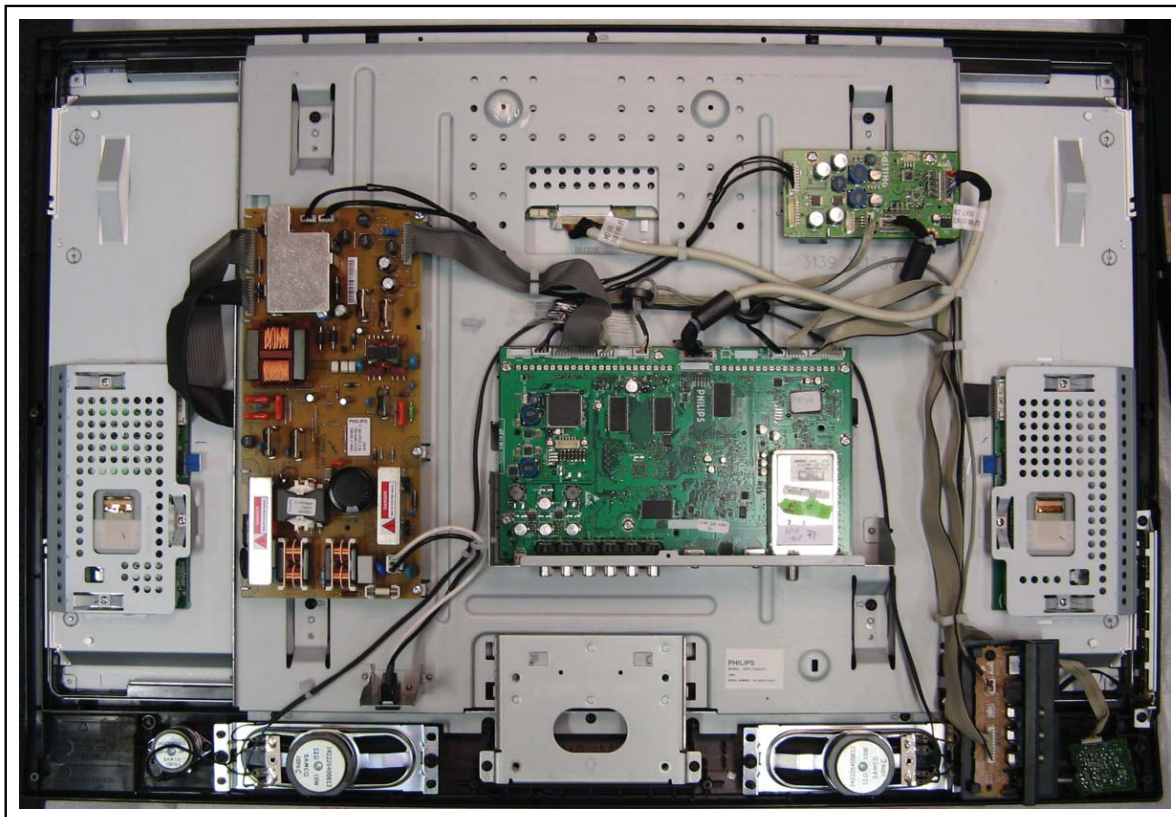
- Figures below are taken from the 32PFL7332D/37 model, and can deviate from the actual situation, due to the different set executions.
- The EJ3.0U LA chassis is based on the EL1.1U chassis. If the situation at hand differs too much from the description below, please refer to the manual of that chassis (12NC: 312278516290).
- Follow the disassembly instructions in described order.

4.1 Cable Dressing



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Figure 4-1 Cable dressing (26-inch model)



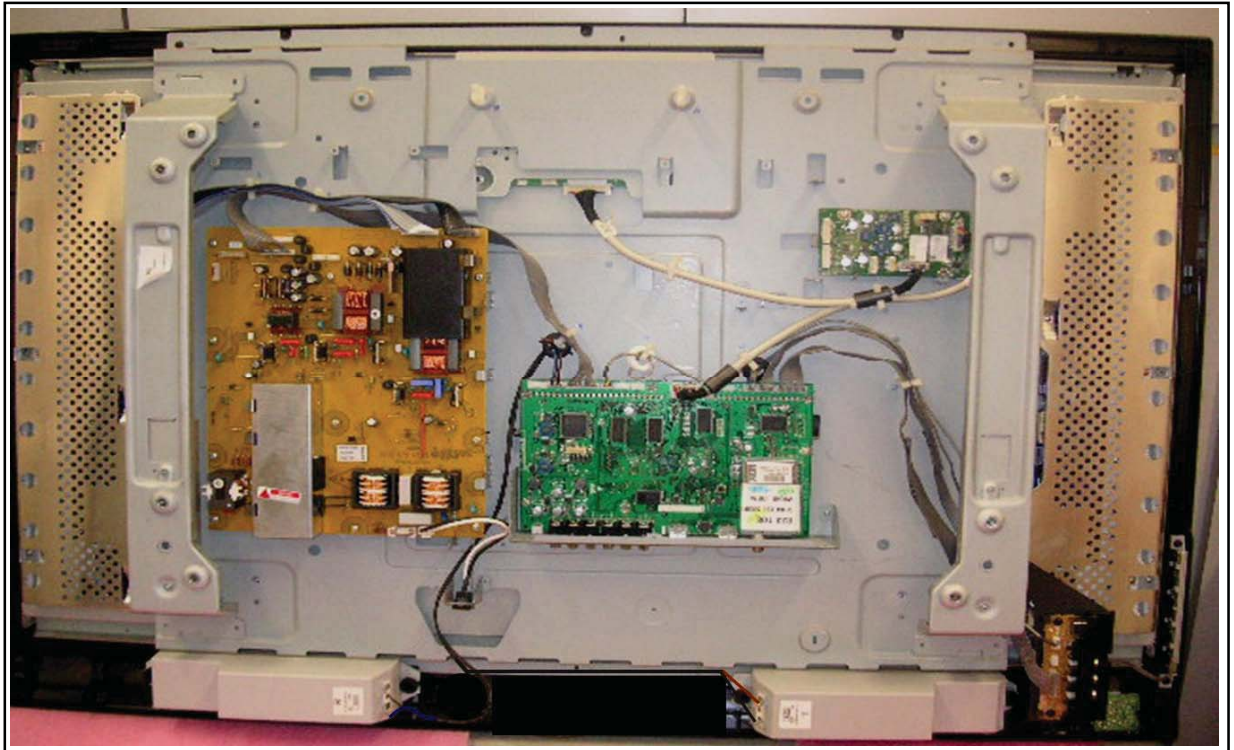
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Figure 4-2 Cable dressing (32-inch model)



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Figure 4-3 Cable dressing (37-inch model)



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Figure 4-4 Cable dressing (42-inch model)



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Figure 4-5 Cable dressing rear cover for models with AmbiLight (32-inch model)

4.2 Service Positions

For easy servicing of this set, there are a few possibilities created:

- The buffers from the packaging.
- Foam bars (created for Service).
- Aluminium service stands (created for Service).

4.2.1 Foam Bars

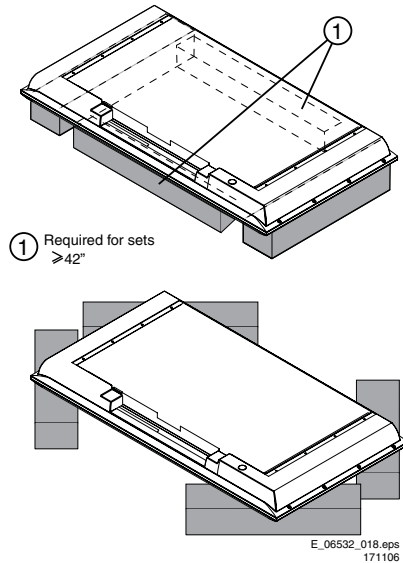


Figure 4-6 Foam bars

The foam bars (order code 3122 785 90580 for two pieces) can be used for all types and sizes of Flat TVs. See figure "Foam bars" for details. Sets with a display of 42" and larger, require **four** foam bars [1]. Ensure that the foam bars are always supporting the cabinet and **never** only the display. **Caution:** Failure to follow these guidelines can seriously damage the display!

By laying the TV face down on the (ESD protective) foam bars, a stable situation is created to perform measurements and alignments. By placing a mirror under the TV, you can monitor the screen.

4.2.2 Aluminium Stands

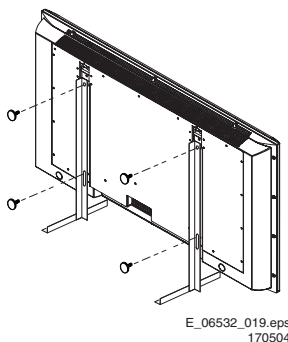


Figure 4-7 Aluminium stands (drawing of MkI)

The new MkII aluminium stands (not on drawing) with order code 3122 785 90690, can also be used to do measurements, alignments, and duration tests. The stands can be (dis)mounted quick and easy by means of sliding them in/out the "mushrooms" (not valid for all models!). The new stands are backwards compatible with the earlier models.

Important: For (older) FTV sets without these "mushrooms", it is obligatory to use the provided screws, otherwise it is possible to damage the monitor inside!

4.3 Assy/Panel Removal

4.3.1 Rear Cover

Warning: Disconnect the mains power cord before you remove the rear cover.

1. Place the TV set upside down on a table top, using the foam bars (see part "Service Position").
2. Remove screws [1] and the stand.
3. Remove screws [2] and the small "Service door".
4. Unplug connectors [3]. See figure "Rear cover removal 2"
5. Remove screws [4] and the rear cover.



Figure 4-8 Service door (example)

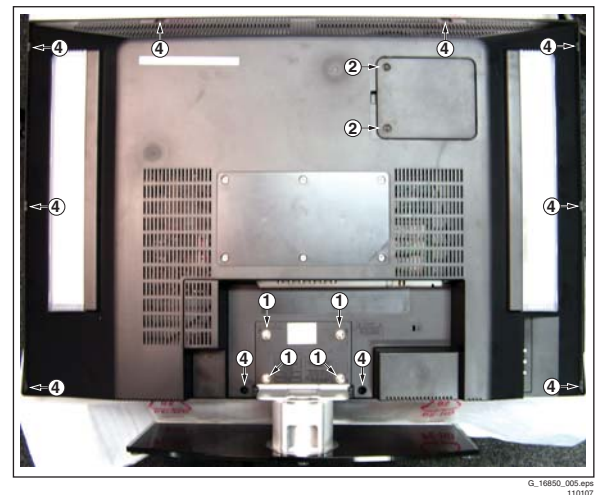


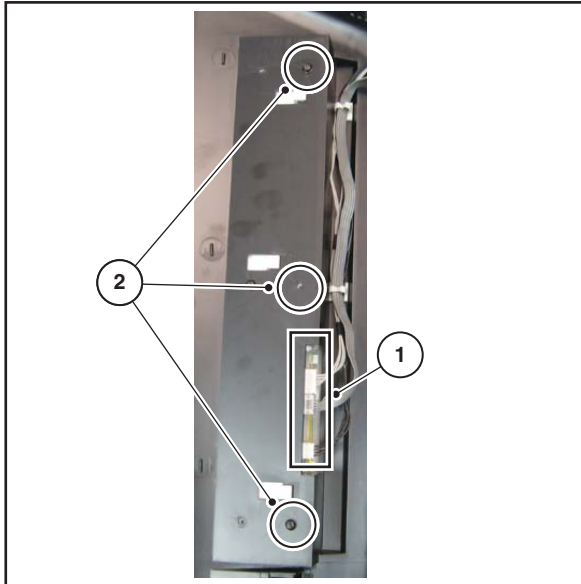
Figure 4-9 Rear cover removal [1/2]



Figure 4-10 Rear cover removal [2/2]

4.3.2 AmbiLight Module

1. Remove the rear cover, as described earlier.
2. Unplug connectors [1].
3. Remove screws [2].
4. Slide the module to the left or the right, depending on the position of the module, and remove it from the rear cover.

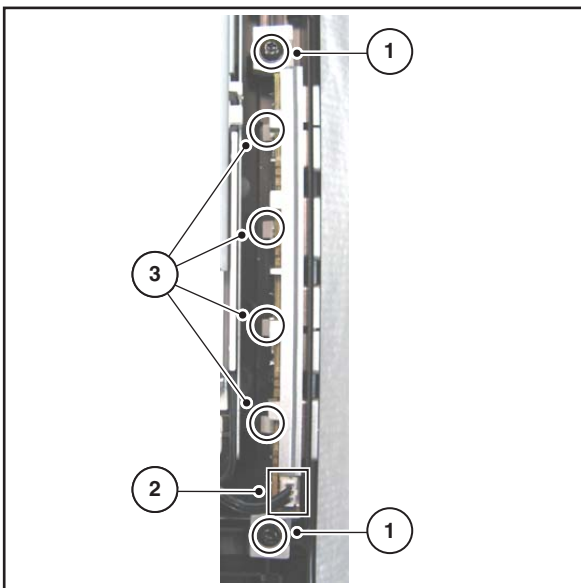


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Figure 4-11 AmbiLight unit

4.3.3 Keyboard Control Panel

1. Remove the rear cover, as described earlier.
 2. Refer to fig. "Keyboard control panel" below.
 3. Remove the T10 Parker screws [1].
 4. Unplug connector [2].
 5. Remove the unit.
 6. Release clips [3] and remove the board.
- When defective, replace the whole unit.



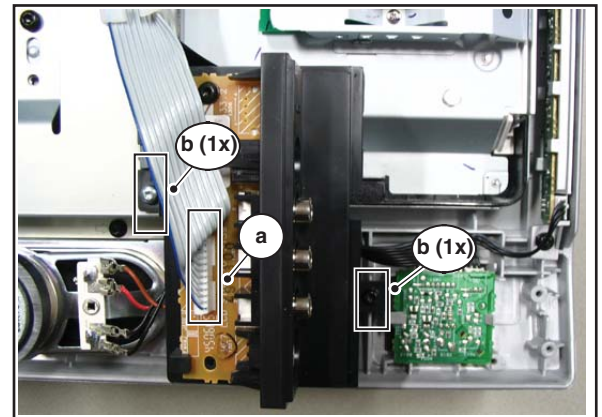
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Figure 4-12 Keyboard control panel

4.3.4 Side I/O Panel

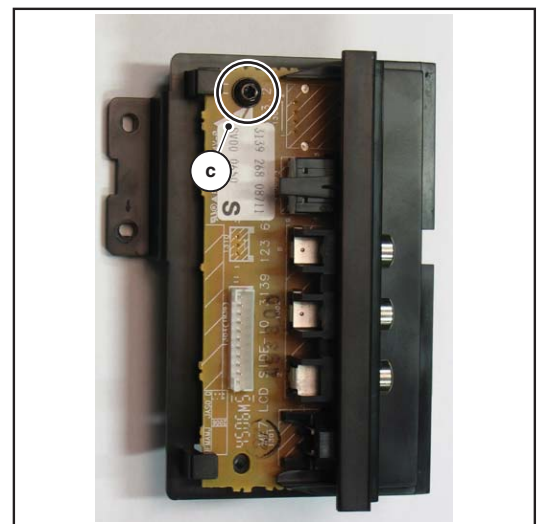
1. Remove the rear cover, as described earlier.
2. Unplug connector [a].
3. Remove screws [b] and remove the complete module. One of the screws is T10 tapping, the other one is T10 Parker. See fig. "Side I/O module".
4. Remove T10 Parker screw [c]. See fig. "Side I/O panel 1".
5. Push catch [d] (located at the underside of the bracket) and slide the unit to the right from its bracket [e]. See fig. "Side I/O panel 2".
6. To remove the PWB from its bracket, you have to lift the catch [f] located on top of the headphone connector. At the same time, slide the PWB out of its bracket [g]. See fig. "Side I/O panel 3".

When defective, replace the whole unit.



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Figure 4-13 Side I/O module



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Figure 4-14 Side I/O panel [1/3] top side

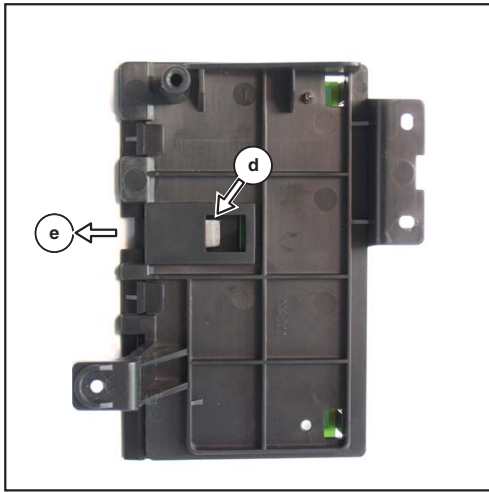
G_16860_076.eps
010207

Figure 4-15 Side I/O panel [2/3] bottom side

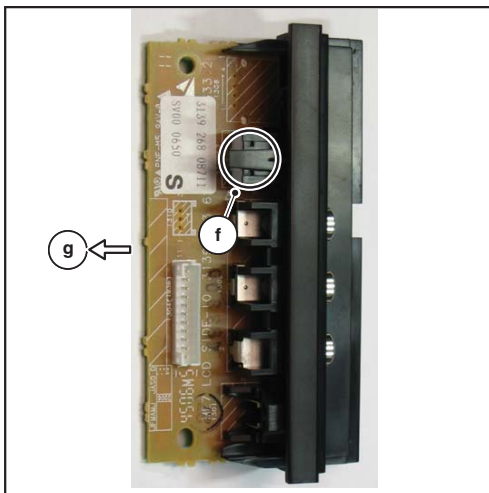
G_16860_077.eps
010207

Figure 4-16 Side I/O panel [3/3]

4.3.5 IR/LED Panel

1. Remove the rear cover, as described earlier.
 2. Refer to fig. "IR/LED panel" below.
 3. Unplug connector(s) [1].
 4. Release clip [2] and remove the board.
- When defective, replace the whole unit.

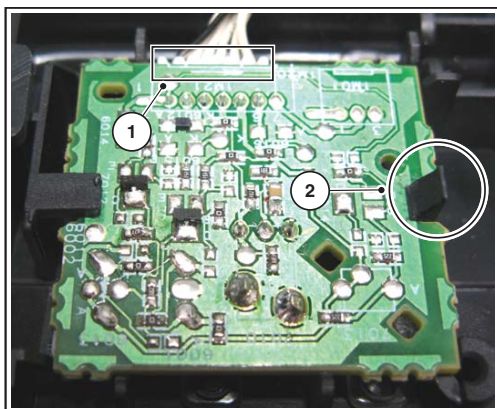
G_16850_009.eps
110107

Figure 4-17 IR/LED panel

4.3.6 Mid-range Speakers

1. Remove the rear cover, as described earlier.
2. Refer to fig. "Mid-range speakers" below.
3. Unplug connectors [1].
4. Remove T10 Parker screws [2].

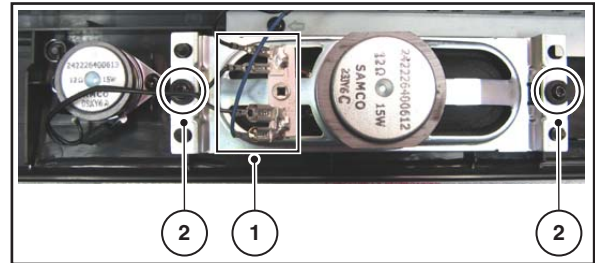
G_16850_010.eps
110107

Figure 4-18 Mid-range speakers

4.3.7 Tweeters

1. Remove the rear cover, as described earlier.
2. Refer to fig. "Tweeters" below.
3. Unplug connectors [1].
4. Remove T10 Parker screws [2].

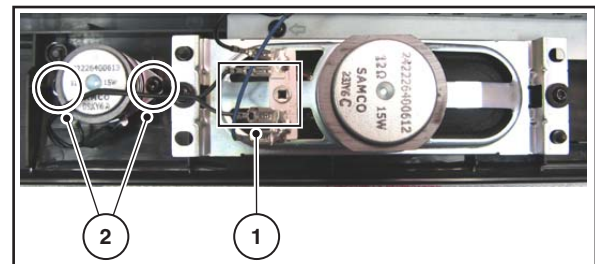
G_16850_011.eps
110107

Figure 4-19 Tweeters

4.3.8 Power Supply Board

1. Remove the rear cover, as described earlier.
2. Unplug connectors [1].
3. Remove the fixation screws [2].
4. Take the board out of its brackets (it hinges on the right side).

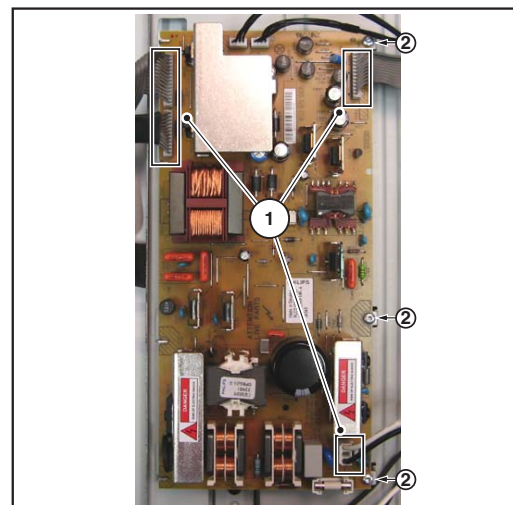
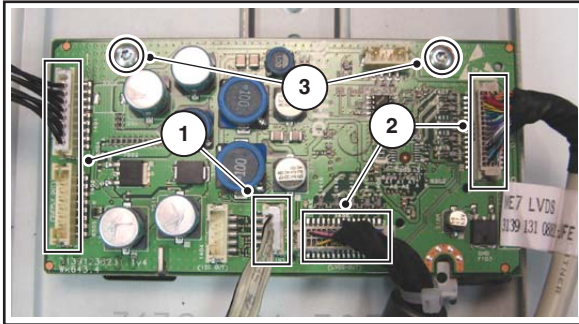
G_16840_082.eps
310107

Figure 4-20 Power supply board

4.3.9 Interconnection Board

1. Remove the rear cover, as described earlier.
2. Unplug connectors [1].
3. Carefully unplug the LVDS connectors [2]. Be careful as they are very fragile.
4. Remove the fixation screws [3].

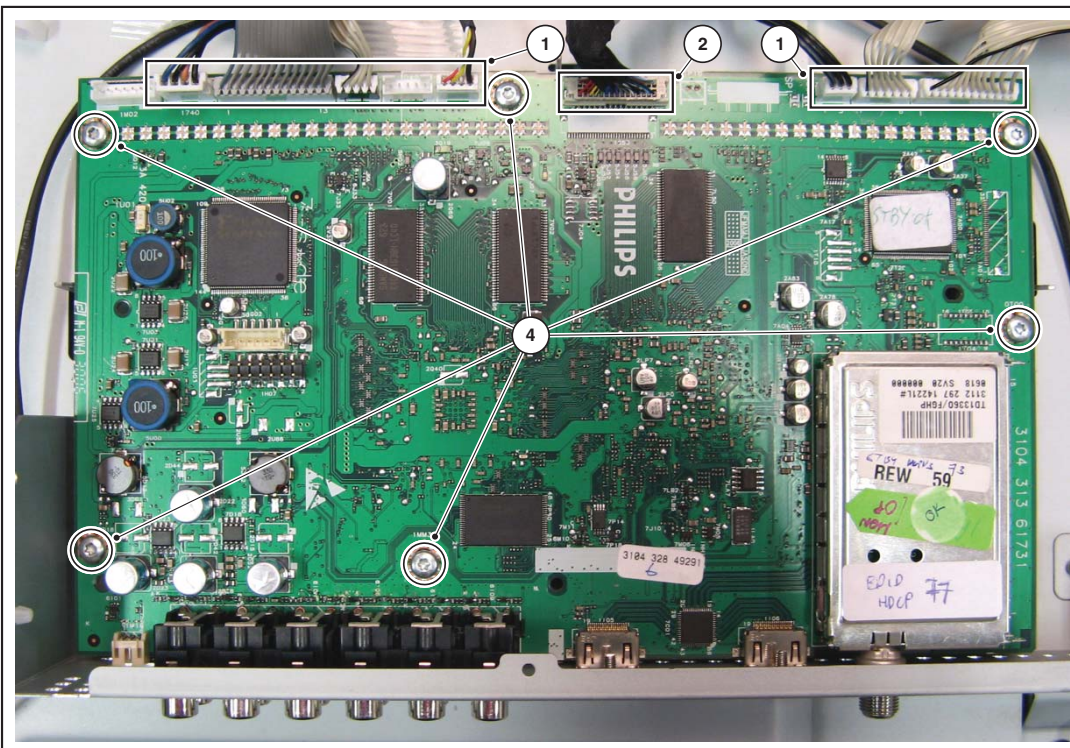


G_16840_085.eps
010207

Figure 4-21 Interconnection board

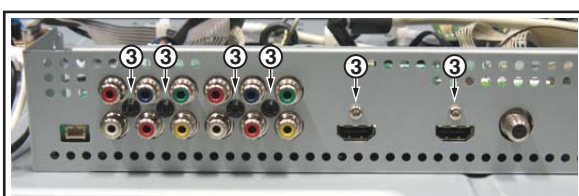
4.3.10 Small Signal Board (SSB)

1. Unplug connectors [1].
2. Carefully unplug the LVDS connector [2]. Be careful as it is very fragile.
3. Remove the fixation screws [3] from the connector plate.
4. Remove the fixation screws [4].



G_16840_083.eps
310107

Figure 4-22 Small Signal Board 1/2

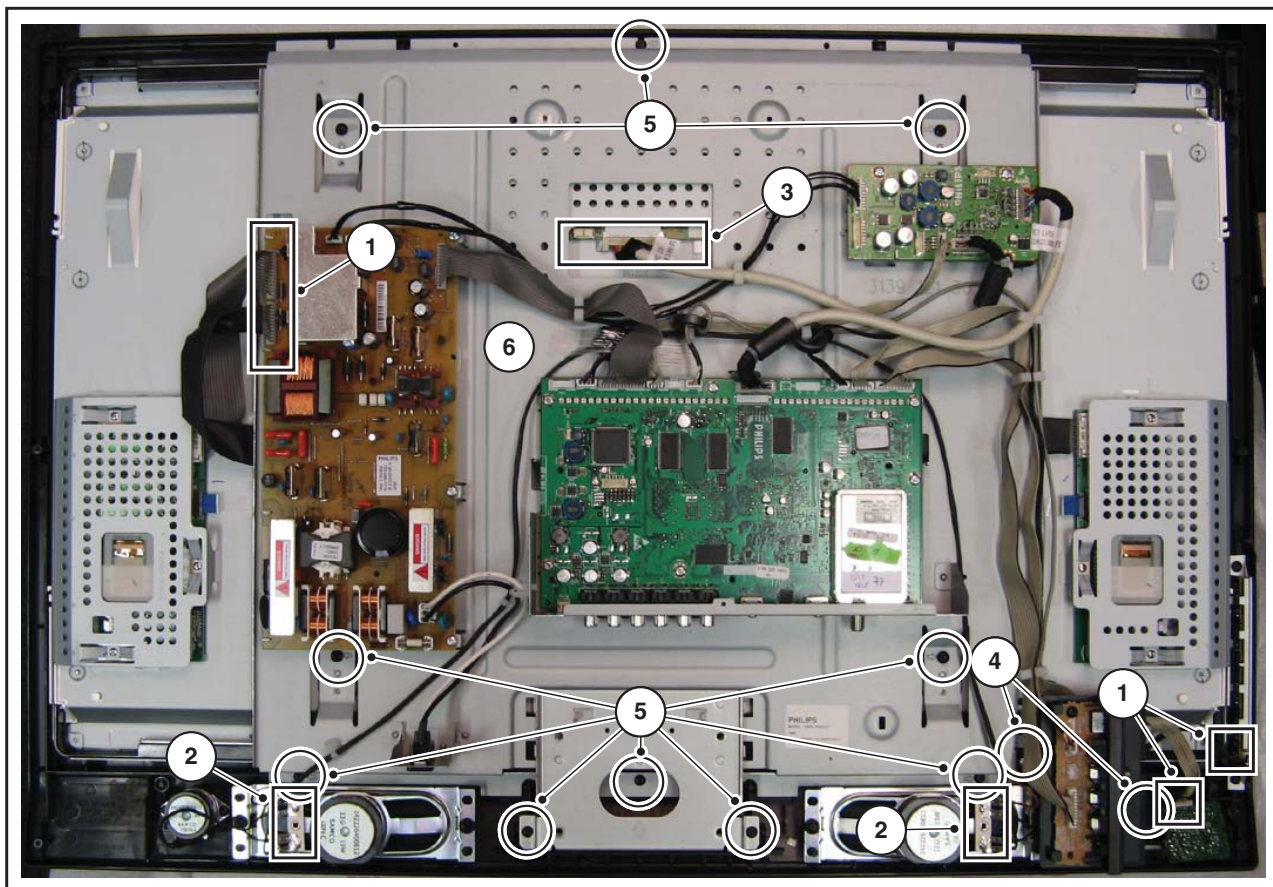


G_16840_084.eps
010207

Figure 4-23 Small Signal Board 2/2

4.3.11 LCD Panel

1. Remove the rear cover, as described earlier.
2. Refer to fig. "LCD panel" below.
3. Unplug the connectors [1] from the power supply, the LED/IR board, and the Side I/O board.
4. Unplug the outer connectors [2] from the mid-range loudspeakers.
5. **Do NOT forget** to unplug the LVDS connector [3] from the SSB. **Important:** Be careful, as this is a very fragile connector!
6. Remove fixation screws [4] and put the complete Side I/O unit on the central sub-frame [6].
7. Remove fixation screws [5] and lift the complete central sub-frame [6] (incl. the PSU, SSB, and Side I/O boards and wiring) from the set.
8. Lift the LCD panel [7] from the front cabinet.



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050207

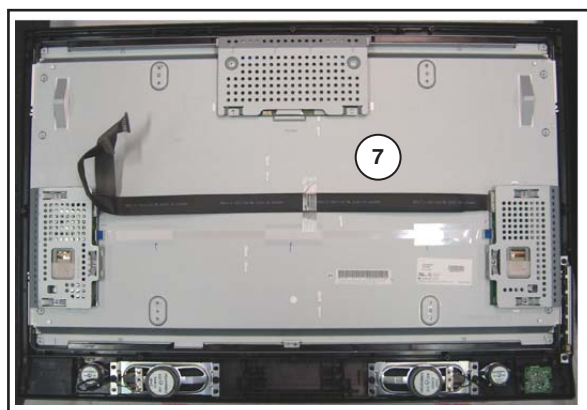
Figure 4-24 LCD panel [1/2]

4.4 Set Re-assembly

To re-assemble the whole set, execute all processes in reverse order.

Notes:

- While re-assembling, make sure that all cables are placed and connected in their original position. See figure "Cable dressing".
- Pay special attention not to damage the EMC foams. Ensure that EMC foams are mounted correctly (one is located above the LVDS connector on the display, between the LCD display and the metal sub-frame).



G_16850_015.eps
110107

Figure 4-25 LCD panel [2/2]

5. Service Modes, Error Codes, and Fault Finding

Index of this chapter:

- 5.1 Test Points
- 5.2 Service Modes
- 5.3 Stepwise Start-up
- 5.4 Service Tools
- 5.5 Error Codes
- 5.6 The Blinking LED Procedure
- 5.7 Protections
- 5.8 Fault Finding and Repair Tips
- 5.9 Software Upgrading

5.1 Test Points

As most signals are digital, it will be almost impossible to measure waveforms with a standard oscilloscope. Therefore, waveforms are not given in this manual. Several key ICs are capable of generating test patterns, which can be controlled via ComPair. In this way it is possible to determine which part is defective.

Perform measurements under the following conditions:

- Service Default Mode.
- Video: Color bar signal.
- Audio: 3 kHz left, 1 kHz right.

5.2 Service Modes

Service Default Mode (SDM) and Service Alignment Mode (SAM) offer several features for the service technician, while the Customer Service Mode (CSM) is used for communication between a Customer Helpdesk and a customer.

There is also the option of using ComPair, a hardware interface between a computer (see requirements below) and the TV chassis. It offers the ability of structured troubleshooting, test pattern generation, error code reading, software version readout, and software upgrading.

Minimum requirements for ComPair: a Pentium processor, Windows 95/98, and a CD-ROM drive (see also paragraph "ComPair").

Remark: as the Hotel Mode is a User Mode, rather than a Service Mode, we have put the description in Chapter 3, Directions for Use.

5.2.1 Service Default Mode (SDM)

Purpose

- To create a pre-defined setting, to get the same measurement results as given in this manual.
- To override SW protections (only applicable for protections detected by stand-by processor) and make the TV start up to the step just before protection (a sort of automatic stepwise start up). See paragraph "Stepwise Start Up".
- To start the blinking LED procedure (not valid in protection mode).

Specifications

Table 5-1 SDM default settings

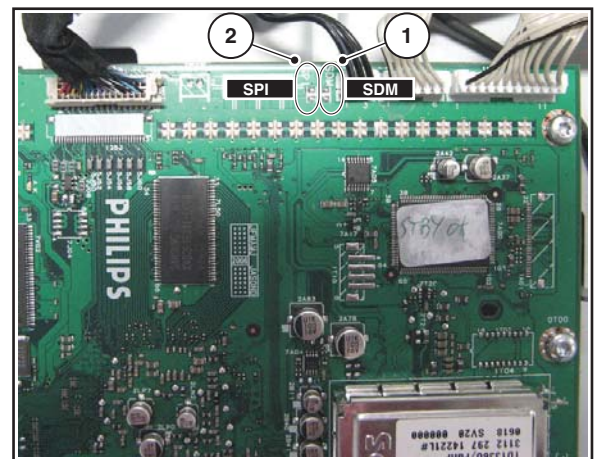
Region	Freq. (MHz)	Default system
Europe, AP-PAL/Multi	475.25	PAL B/G
NAFTA, AP-NTSC, LATAM	61.25 (ch. 3)	NTSC M

- Tuning frequency 61.25 MHz for NTSC: The TV shall tune to physical channel 3 only if channel 3 is an analog channel or if there is no channel 3 installed in the channel map. If there is a digital channel installed in channel 3, then the frequency to which the set will tune, would be as specified in the channel map and could be different from the one corresponding to the physical channel 3.
- All picture settings at 50% (brightness, color, contrast).
- All sound settings at 50%, except volume at 25%.
- All service-unfriendly modes (if present) are disabled, like:
 - (Sleep) timer.
 - Child/parental lock.
 - Picture mute (blue mute or black mute).
 - Automatic volume levelling (AVL).
 - Auto switch "OFF" (when no video signal was received for 10 minutes).
 - Skip/blank of non-favorite pre-sets.
 - Smart modes.
 - Auto store of personal presets.
 - Auto user menu time-out.

How to Activate SDM

Use one of the following methods:

- Use the standard RC-transmitter and key in the code "062596", directly followed by the "MENU" button.
Note: It is possible that, together with the SDM, the main menu will appear. To switch it "OFF", push the "MENU" button again.
- Short for a moment the two solder pads [1] on the SSB, with the indication "SDM". They are located on top of the SSB. Activation can be performed in all modes, except when the set has a problem with the Stand-by Processor. See figure "SDM and SPI service pads".



G_16840_014.eps
030107

Figure 5-1 SDM and SPI service pads

After activating this mode, "SDM" will appear in the upper right corner of the screen (if you have picture).

How to Navigate

When you press the "MENU" button on the RC transmitter, the set will toggle between the SDM and the normal user menu (with the SDM mode still active in the background).

How to Exit SDM

Use one of the following methods:

- Switch the set to STAND-BY via the RC transmitter.
- Via a standard customer RC transmitter: key in "00"-sequence.

5.2.2 Service Alignment Mode (SAM)

Purpose

- To perform (software) alignments.
- To change option settings.
- To easily identify the used software version.
- To view operation hours.
- To display (or clear) the error code buffer.

How to Activate SAM

Via a standard RC transmitter: key in the code "062596" directly followed by the "INFO" button. After activating SAM with this method a service warning will appear on the screen, you can continue by pressing the red button on the RC.

Contents of SAM:

- **Hardware Info.**
 - **A. VIPER SW Version.** Displays the software version of the VIPER software (main software) (**example:** EJ30U_0.77.0.0 = AAAAB_X.Y.W.Z_NNNNN).
 - **AAAA**= the chassis name.
 - **B**= the region: A= AP, E= EU, L= Latam, U = US.
 - **X.Y.W.Z**= the software version, where X is the main version number (different numbers are not compatible with one another) and Y is the sub version number (a higher number is always compatible with a lower number). The last two digits are used for development reasons only, so they will always be zero in official releases.
 - **NNNNN**= last five digits of 12nc code of the software.
 - **B. SBY PROC Version.** Displays the software version of the stand-by processor.
 - **C. Production Code.** Displays the production code of the TV, this is the serial number as printed on the back of the TV set. Note that if an NVM is replaced or is initialized after corruption, this production code has to be re-written to NVM. ComPair will foresee in a possibility to do this.
- **Operation Hours.** Displays the accumulated total of operation hours (not the stand-by hours). Every time the TV is switched "ON/OFF", 0.5 hours is added to this number.
- **Errors.** (Followed by maximal 10 errors). The most recent error is displayed at the upper left (for an error explanation see paragraph "Error Codes").
- **Defective Module.** Here the module that generates the error is displayed. If there are multiple errors in the buffer, which are not all generated by a single module, there is probably another defect. It will then display the message "UNKNOWN" here.
- **Reset Error Buffer.** When you press "cursor right" and then the "OK" button, the error buffer is reset.
- **Alignments.** This will activate the "ALIGNMENTS" sub-menu.
- **Dealer Options.** Extra features for the dealers.
- **Options.** Extra features for Service.
- **Initialize NVM.** When an NVM was corrupted (or replaced) in the former EMG based chassis, the microprocessor replaces the content with default data (to assure that the set can operate). However, all preferences and alignment values are gone now, and option numbers are not correct. Therefore, this was a very drastic way. In this chassis, the procedure is implemented in another way: The moment the processor recognizes a corrupted NVM, the "initialize NVM" line will be highlighted. Now, you can do two things (dependent of the service instructions at that moment):
 - Save the content of the NVM via ComPair for development analysis, **before** initializing. This will give the Service department an extra possibility for diagnosis (e.g. when Development asks for this).
 - Initialize the NVM (same as in the past, however now it happens conscious).

Note: When you have a corrupted NVM, or you have replaced the NVM, there is a high possibility that you will not have picture any more because your display option is not correct. So, before you can initialize your NVM via the SAM, you need to have picture and therefore you need the correct display option. To adapt this option, you can use ComPair (the correct HEX values for the options can be found in the table below) or a method via a standard RC (described below).

Changing the display option via a standard RC:

Key in the code "062598" directly followed by the "MENU" button and by "XXX" (where XXX is the 3 digit decimal display option code as mentioned in the first column of the next table). Make sure to key in all three digits, also the leading zero's. If the above action is successful, the front LED will go out as an indication that the RC sequence was correct. After the display option is changed in the NVM, the TV will go to the Stand-by mode. If the NVM was corrupted or empty before this action, it will be initialized first (loaded with default values). This initializing can take up to 20 seconds.

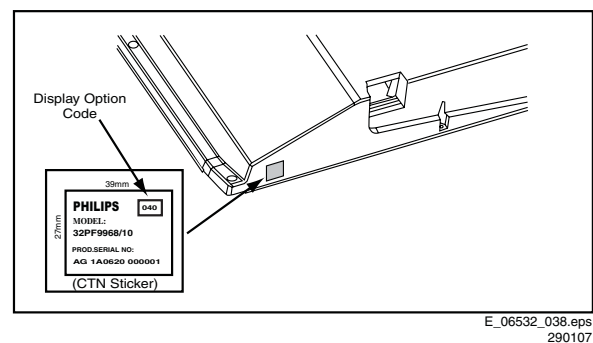


Figure 5-2 Location of Display Option Code sticker

Display option	HEX	Display type	Brand	SIZE	Full HD	Clear LCD	Resolution vertical	Resolution horizontal	Type number	12 NC
000	00	PDP	SDI	42			768p	1024	S42AX-YD01(PP42AX-007A)	9322 225 38682
001	01	PDP	SDI	50			768p	1366	S50HW-XD03	9322 215 26682
002	02	PDP	FHP	42			1024i	1024	FPF42C128128UC-52 (A1)	9322 212 78682
003	03	LCD	LPL	30			768p	1280	LC300W01-A3P7	9322 198 00682
004	04	LCD	LPL	37			768p	1366	LC370W01-A6	9322 220 87682
005	05	LCD	LPL	42			768p	1366	LC420W02-A6	9322 226 39682
006	06	LCD	Sharp	32			768p	1366	LQ315T3LZ13 (ASV1) LQ315T3LZ23 (ASV2.2)(5Vtcon) LQ315T3LZ23 (ASV2.2)(12Vtcon)	9322 209 35682 9322 226 58682 9322 226 16682
007	07	PDP	SDI	42			480p	852	S42SD-YD05 (V3)	9322 215 27682
008	08	PDP	FHP	37			1024i	1024	FPF37C128128UB-72	9322 217 56682
009	09	LCOS XION					720p	1280	n.a.	n.a.
010	0A	LCD	AUO	30			768p	1280	T296XW01 T296XW01V2 T296XW01V3	9322 206 49682 9322 219 45682 9322 213 33682
011	0B	LCD	LPL	32			768p	1366	LC320W01-A6K1	9322 217 44682
012	0C	LCD	AUO	32			768p	1366	T315XW01V5	9322 231 69682
013	0D	LCD	Sharp	37			768p	1366	LQ370T3LZ21 (ASV2) LQ370T3LZ44 (ASV2.2)	?
014	0E	LCD	LPL	42	X		1080p	1920	LC420WU1-SL01	9322 228 99682
015	0F	PDP	SDI	37			480p	852	S37SD-YD02	9322 217 39682
016	10	PDP	FHP	37			1080i	1024	not used	not used
017	11	PDP	FHP	42			1080i	1024	FPF42C128135UA-52	9322 235 43682
018	12	PDP	FHP	55			768p	1366	not used	not used
019	13	LCOS VENUS					720p	1280	n.a.	n.a.
020	14	LCOS VENUS			X		1080p	1920	n.a.	n.a.
021	15	LCD	LPL	26			768p	1366	LC260WX2-SL01	9322 221 01682
022	16	LCD	LPL	32		SC BL	768p	1366	LC320WX2-SL01	9322 241 46682
023	17	PDP	LGE	42			480p	852	not used	not used
024	18	PDP	SDI	42			480p	852	S42SD-YD07(PP42SD-015A) (V4) S42SD-YD07(PP42SD-015B) (V4) S42SD-YD07(PP42SD-015F) (V4)	9322 226 37682 9322 226 96682 9322 233 81682
025	19	PDP	SDI	42			768p	1024	S42AX-YD01(PP42AX-007A) (V4) S42AX-YD01(PP42AX-008A) (V4) S42AX-YD01(PP42AX-008B) (V4) S42AX-YD02(PP42AX-009A) (W1) S42AX-YD02 (PS-425-PHN) (W1)	9322 225 38682 9322 226 95682 9322 233 80682 9322 240 08682 9322 242 85682
026	1A	PDP	FHP	42			1024i	1024	FPF42C128128UD-51 (A2)	not used
027	1B	PDP	SDI	50			768p	1366	S50HW-XD04(PP50HW-005A) (V4) S50HW-XD04(PP50HW-005B) (V4) S50HW-XD04(PP50HW-005E) (V4) S50HW-YD01(PP50HW-010A) (W1)	9322 226 54682 9322 226 97682 9322 233 79682 9322 240 25682
028	1C	LCD	Sharp	37	X		1080p	1920	LQ370D3LZ13 (ASV2.2)	9322 228 48682
029	1D	LCD	AUO	32			768p	1366	T315XW01-V3	not used
030	1E	LCD	Sharp	37	X	BDI	1080p	1920	LW370D3LZ1x (ASV 3 first samples)	not used
031	1F	LCD	Sharp	37	X	BDI	1080p	1920	LK370D3LZ33 (ASV 3)	9322 242 22682
032	20	LCD	LPL	20			768p	1366	LC200WX1-SL01	9322 222 90682
033	21	LCD	QDI	23			768p	1366	QD23HL02 REV01 QD23HL02 REV01(03)	9322 223 91682 9322 232 69682
034	22	ECO PTV		51			1080i	1366	?	
035	23	ECO PTV		55			1080i	1366	?	
036	24	ECO PTV		61			1080i	1366	?	
037	25	PDP	FHP	42			1024i	1024	FPF42C128135UA-52 (A3)	9322 235 43682
038	26	DLP		50			720p	1280	?	
039	27	DLP		60			720p	1280	?	
040	28	LCD	Sharp	32			768p	1366	LK315T3LZ43 (ASV 2.3)	9322 235 32682
041	29	LCD	LPL	42		SC BL	768p	1366	LC420WX2-SLA1	9322 240 80682
042	2A	PDP	SDI	63			768p	1366	S63HW-XD05(1H341W)	9322 246 18682
043	2B	LCD	Sharp	37		BDI	768p	1366	LK370T3LZ63 (ASV 3)	9322 247 94682
044	2C	LCD	Sharp	37			768p	1366	LK370T3LZ53 (ASV 2.3)	9322 235 83682
045	2D	LCD	LPL	26			768p	1366	LC260WX2-SLB2	9322 234 13682
046	2E	LCD	LPL	32			768p	1366	LC320W01-SL06	9322 230 03682
047	2F	LCD	LPL	42			768p	1366	LC420W02-SLB1	9322 234 12682
048	30	LCD	QDI	26			768p	1366	QD26HL02-REV01 QD26HL02-REV02	9322 227 29682 9322 235 05682
049	31	LCD	AUO	26			768p	1366	T260XW02V4	9322 231 90682
050	32	LCD	AUO	32			768p	1366	T315XW01V9	9322 231 89682
051	33	LCD	AUO	37			768p	1366	T370XW01V1	9322 233 78682
052	34	LCD	AUO	32			768p	1366	T315XW02V5	not used
053	35	LCD	LPL	37			768p	1366	LC370WX1-SL04	9322 233 19682
054	36	PDP	LGE	42			768p	1024	PDP42X3S000 PDP42X3V000	9322 245 29682 9322 246 93682
055	37	LCD	LPL	42	X		1080p	1920	LC420WU2-SLA1	9322 246 84682
056	38	LCD	LPL	47	X		1080p	1920	LC470WU1-SLC2	9322 248 50682
057	39	LCD	LPL	42			768p	1366	LC420WX3-SLA2	under development
058	3A	LCD	LPL	42	X	SC BL	1080p	1920	LC420WU5-SLA1	under development
059	3B									reserved
060	3C	LCD	Sharp	37	X	DFI	1080p	1920	LK370D3LZXX	under development
061	3D	LCD	LPL	42		DFI	768p	1366	FMB	reserved
062	3E	LCD	LPL	32		DFI	768p	1366	WX5 SLB1	under development
063	3F	LCD	LPL	47	X	DFI	1080p	1920	WCG	under development

Figure 5-3 Display option code overview [1/2] (for all Philips FTV chassis)

Display option	HEX	Display type	Brand	SIZE	Full HD	Clear LCD	Resolution vertical	Resolution horizontal	Type number	12 NC
064	40									reserved
065	41									reserved
066	42	PDP	SDI	63	x		1080p	1920	S63HW-YD02 (W2)	under development
067	43	LCD	AUO	26			768p	1366	T260XW03V1	under development
068	44	LCD	CMO	26			768p	1366	V260B1-L03	9322 249 37682
069	45	LCD	CMO	32			768p	1366	V315B1 L05	9322 248 65682
070	46	LCD	CPT	32			768p	1366	CLLAA320WB02P	9322 245 31682
071	47	LCD	LPL	37			768p	1366	LC370WX1-SLB1	9322 246 96682
072	48	LCD	AUO	37			768p	1366	T370XW02V5	9322 249 77682
073	49	LCD	LPL	42			768p	1366	LC420WX3-SLA1	9322 246 97682
074	4A	LCD	LPL	42		DFI	768p	1366	LC420WX4-SLA1	under development
075	4B	LCD	Sharp	52	X	DFI	1080p	1920	LK520D3LZ1X	under development
076	4C	LCD	AUO	42			768p	1366	T420XW01V8	9322 249 10682
077	4D	LCD	AUO	42		BDI	768p	1366	T420XW	under development
078	4E	LCD	AUO	42	X		1080P	1920	T420HW01 V0	under development
079	4F	LCD	CMO	42		BDI	768p	1366	V420B1	under development
080	50	LCD	CMO	42	X		1080P	1920	V420H1	under development
081	51	LCD	LPL	47	X		1080P	1920	LC470WU4-SLA2	under development
082	52	LCD	AUO	47	X		1080P	1920	T470HW01 V0	under development
083	53	PDP	SDI	42			768p	1024	S42AX-YD04(PS-426-PH)	9322 246 76682
084	54	PDP	LGE	42			768p	1024	HD X4	under development
085	55	PDP	SDI	50			768p	1366	S50HW-YD05(PS-506-PH)	9322 246 81682
086	56	PDP	LGE	50			768p	1366	HD X4	under development
087	57	LCD	Sharp	37	X	BDI	1080p	1920	LK370D3LZ43 (ASV3.0)	9322 248 28682
088	58	LCD	Sharp	37		BDI	768p	1366	(ASV2.3 VE1)	under development
089	59	LCD	AUO	42			768p	1366	T420XW01V5	under development
090	5A	LCD	AUO	26			768p	1366	T260XW03V1	under development
091	5B	LCD	AUO	32			768p	1366	T315XW02VD	9322 249 06682
092	5C	LCD	LPL	42			768p	1366	LC420WX2-SLA1	9322 240 80682
093	5D	LCD	LPL	42	X		1080p	1920	LC420WU2-SLA1	9322 246 84682
094	5E	PDP	SDI	63	x		1080p	1920	S63HW-YD02 (W2) used with JIP panel	under development
095	5F	LCD	Sharp	37	X		1080p	1920	LK370D3LZ23	9322 249 96682
096	60	LCD	LPL	42	X	SC BL DFI	1080p	1920	TBD	under development
097	61	LCD	LPL	47	X	SC BL	1080p	1920	LC470WU6 - SLA1	under development
098	62	LCD	Sharp	52	X		1080p	1920	LK520D3LZ1X	under development
099	63									reserved
100	64	LCD		42	X		1080p	1920	3D	under development
101	65									reserved
102	66	LCD	Sharp	32		DFI	768p	1366	LK315T3LZ53	under development
103	67	LCD	LPL	20			480p	640	LC201V02-SDB1	9322 242 65682
104	68	LCD	AUO	20			600p	800	A201SN02 V5	not in ECM2
105	69	LCD	CMO	19			900p	1440	TPM190A1-L02	9965 000 43654
106	6A	LCD	AUO	23			768p	1366	T230XW01V3	9322 249 79682
107	6B	LCD	LPL	42			768P	1366	LC420WX5-SLD1	9322 249 09682

E_06532_030b.eps
080207

Figure 5-4 Display option code overview [2/2] (for all Philips FTV chassis)

- **Store.** All options and alignments are stored when pressing “cursor right” and then the “OK” button
- **SW Maintenance.**
 - **SW Events.** Not useful for service purposes. In case of specific software problems, the development department can ask for this info.
 - **HW Events.** Not functional at the moment this manual is released, description will be published in an update manual if the function becomes available.
- **Upload to USB.** Write the channel list and the settings to a USB device.
- **Download from USB.** Retrieve the channel list and the settings from a USB device.

How to Navigate

- In SAM, you can select the menu items with the “CURSOR UP/DOWN” key on the RC transmitter. The selected item will be highlighted. When not all menu items fit on the screen, move the “CURSOR UP/DOWN” key to display the next/previous menu items.
- With the “CURSOR LEFT/RIGHT” keys, it is possible to:
 - (De)activate the selected menu item.
 - (De)activate the selected submenu.

How to Exit SAM

Use one of the following methods:

- Press the “MENU” button on the RC transmitter.
- Switch the set to STAND-BY via the RC transmitter.

Note: As long as SAM is activated, it is not possible to change a channel. This could hamper the White Point alignments because you cannot choose your channel/frequency any more. Workaround: after you have sent the RC code “062596 INFO” you will see the service-warning screen, and in this stage it is still possible to change the channel (so before pressing the “OK” button).

5.2.3 Customer Service Mode (CSM)

Purpose

When a customer is having problems with his TV-set, he can call his dealer or the Customer Helpdesk. The service technician can then ask the customer to activate the CSM, in order to identify the status of the set. Now, the service technician can judge the severity of the complaint. In many cases, he can advise the customer how to solve the problem, or he can decide if it is necessary to visit the customer. The CSM is a read only mode; therefore, modifications in this mode are not possible.

How to Activate CSM

Key in the code "123654" via the standard RC transmitter.

Note: Activation of the CSM is only possible if there is no (user) menu on the screen!

How to Navigate

By means of the "CURSOR-DOWN/UP" knob on the RC transmitter, you can navigate through the menus.

Contents of CSM

• CSM 1

- **1.3. Set type:** Model number of the set. This information is very helpful for a helpdesk/workshop as reference for further diagnosis. In this way, it is not necessary for the customer to look at the rear of the TV-set. (*)
- **1.4. Production Code:** Displays the production code (the serial number) of the TV. (*)
- **1.5. Code 1:** Gives the latest five errors of the error buffer. As soon as the built-in diagnose software has detected an error, the buffer is adapted. The last occurred error is displayed on the leftmost position. Each error code is displayed as a 2-digit number. When less than 10 errors occur, the rest of the buffer is empty (00). See also paragraph Error Codes for a description.
- **1.6. Code 2:** Displays the 2nd part of the error buffer. See also paragraph Error Codes for a description.
- **1.7. Options 1:** Gives the option codes of option group 1 as set in SAM (Service Alignment Mode).
- **1.8. Options 2:** Gives the option codes of option group 2 as set in SAM (Service Alignment Mode).
- **1.13. 12NC SSB:** Indication of the SSB order code. (*)
- **1.13. Install date:** This shall be filled in after time extraction (triggered by disabling of virgin mode, so first time customer does channel installation). Time extraction is done via, teletext for Europe, PBS Public Broadcast Channels for US. This, to determine exactly the warranty period for call centers.

• CSM 2:

- **2.2. Pixel Plus:** Gives an indication if PixelPlus is set "ON" or "OFF".
- **2.4. DNR:** Gives the selected DNR setting (Dynamic Noise Reduction), "OFF", "MINIMUM", "MEDIUM", or "MAXIMUM". Change via "MENU", "TV", "PICTURE", "DNR"
- **2.5. Noise Figure:** Gives the noise ratio for the selected transmitter. This value can vary from 0 (good signal) to 127 (average signal) and to 255 (bad signal). For some software versions, the noise figure will only be valid when "Active Control" is set to "medium" or "maximum" before activating CSM.

• CSM 3:

- **3.1. Headphone Volume:** Gives the last status of the headphone volume, as set by the customer. The value can vary from 0 (volume is minimum) to 100 (volume is maximum). Change via "MENU", "TV", "SOUND", "HEADPHONE VOLUME".

- **3.2. Dolby:** Indicates whether the received transmitter transmits Dolby sound ("ON") or not ("OFF"). Attention: The presence of Dolby can only be tested by the software on the Dolby Signaling bit. If a Dolby transmission is received without a Dolby Signaling bit, this indicator will show "OFF" even though a Dolby transmission is received.
- **3.3. Surround Mode:** Indicates the by the customer selected sound mode (or automatically chosen mode). Possible values are "STEREO" and "VIRTUAL DOLBY SURROUND". Change via "MENU", "TV", "SOUND", "SOUND MODE". It can also have been selected automatically by signaling bits (internal software).
- **3.4. Center Input:** Not applicable.
- **3.5. Audio System:** Gives information about the audible audio system. Possible values are "Stereo", "Mono", "Mono selected", "Analog In: No Dig. Audio", "Dolby Digital 1+1", "Dolby Digital 1/0", "Dolby Digital 2/0", "Dolby Digital 2/1", "Dolby Digital 2/2", "Dolby Digital 3/0", "Dolby Digital 3/1", "Dolby Digital 3/2", "Dolby Digital Dual I", "Dolby Digital Dual II", "MPEG 1+1", "MPEG 1/0", "MPEG 2/0". This is the same info as you will see when pressing the "INFO" button in normal user mode (item "signal"). In case of ATSC receiving there will be no info displayed.
- **3.6. AVL:** Indicates the last status of AVL (Automatic Volume Level): "ON" or "OFF". Change via "MENU", "TV", "SOUND", "AVL". AVL can not be set in case of digital audio reception (e.g. Dolby Digital or AC3)
- **3.7. Delta Volume:** Indicates the last status of the delta volume for the selected preset as set by the customer: from "-12" to "+12". Change via "MENU", "TV", "SOUND", "DELTA VOLUME".

• CSM 4:

- **4.1. Preset Lock:** Indicates if the selected preset has a child lock: "LOCKED" or "UNLOCKED". Change via "MENU", "TV", "CHANNELS", "CHANNEL LOCK".
- **4.3. Lock After:** Indicates at what time the channel lock is set: "OFF" or e.g. "18:45" (lock time). Change "MENU", "TV", "CHANNELS", "LOCK AFTER".
- **4.6. TV Ratings Lock:** Indicates the "TV ratings lock" as set by the customer. Change via "MENU", "TV", "CHANNELS", "TV RATINGS LOCK". Possible values are: "ALL", "NONE", "TV-Y", "TV-Y7", "TV-G", "TV-PG", "TV-14" and "TV-MA".
- **4.7. Movie Ratings Lock:** Indicates the "Movie ratings lock" as set by the customer. Change via "MENU", "TV", "CHANNELS", "MOVIE RATINGS LOCK". Possible values are: "ALL", "NR", "G", "PG", "PG-13", "R", "NC-17" and "X".
- **4.8. V-Chip TV Status:** Indicates the setting of the V-chip as applied by the selected TV channel. Same values can be shown as for "TV RATINGS LOCK".
- **4.9. V-Chip Movie Status:** Indicates the setting of the V-chip as applied by the selected TV channel. Same values can be shown as for "MOVIE RATINGS LOCK".
- **4.10. Region rating Status (RRT):** OFF.

• CSM 5:

- **5.1. On timer:** "OFF" or "ON".
- **5.2. Location:** Gives the last status of the location setting as set via the installation menu. Possible values are "Shop" and "Home". If the location is set to "Shop", several settings are fixed. So for a customer, location must be set to "Home". Can be changed via the installation menu (see also DFU).

• CSM 6:

- **6.1. HDMI key validity:** Indicates the key's validity.
- **6.2. IEEE key validity:** Indicates the key's validity (n.a.).
- **6.3. POD key validity:** Indicates the key's validity (n.a.).

- **CSM 7:**

- **7.2. TV System:** Gives information about the video system of the selected transmitter.
 - a. M: NTSC M signal received.
 - b. ATSC: ATSC signal received.
- **7.3. Source:** Indicates which source is used and the video/audio signal quality of the selected source. (Example: Tuner, Video/NICAM) Source: "TUNER", "AV1", "AV2", "AV3", "HDMI 1", "SIDE". Video signal quality: "VIDEO", "S-VIDEO", "RGB 1FH", "YPBPR 1FH 480P", "YPBPR 1FH 576P", "YPBPR 1FH 1080I", "YPBPR 2FH 480P", "YPBPR 2FH 576P", "YPBPR 2FH 1080I", "RGB 2FH 480P", "RGB 2FH 576P" or "RGB 2FH 1080I". Audio signal quality: "STEREO", "SPDIF 1", "SPDIF 2", or "SPDIF".
- **7.4. Tuned Bit:** Indicates if the selected preset is automatically tuned (via "Automatic Installation" in the setup menu) or via the automatic tuning system of the TV. In this case "Tuned bit" will show "YES". If the TV was not able to auto-tune to the correct frequency, this item will show "NO". So if "NO" is displayed, it could indicate that the customer has manually tuned to a frequency which was too far from a correct frequency, that the TV was not able to auto-tune any more.
- **7.6. Digital Signal Modulation:** Indicates quality of the received digital signal (0 = low).

- **CSM 8:**

- **8.1. 12NC one zip SW:** Displays the 12NC number of the one-zip file as it is used for programming software in production. In this one-zip file all below software version can be found.
- **8.2. Initial Main SW:** Displays the main software version which was initially loaded by the factory.
- **8.3. Current Main SW:** Displays the built-in main software version. In case of field problems related to software, software can be upgraded. As this software is consumer upgradeable, it will also be published on the Internet. E.g. EJ30U_0.77.0.0.
- **8.5. Flash Utils SW:** Displays the software version of the software which contains all necessary components of the download application. To program this software, EJTAG tooling is needed. E.g. EJ30U_0.77.0.0.
- **8.6. Standby SW:** Displays the built-in stand-by processor software version. Upgrading this software will be possible via ComPair or via USB. (see chapter Software upgrade). E.g. STDBY_3.0.1.37.
- **8.7. MOP SW:** Displays the MOP software version. E.g. RXS3E_2.3.0.0.
- **8.8. Pacific 3 Flash SW:** Displays the Pacific 3 software version. E.g. P3FW0_1.6.2.0
- **8.11. NVM version:** Displays the NVM version as programmed by factory. E.g. EJ30U_0.0.0.4

The abbreviations "SP" and "MP" in the figures stand for:

- SP: protection or error detected by the Stand-by Processor.
- MP: protection or error detected by the VIPER Main Processor.

How to Exit CSM

Press any key on the RC transmitter (with exception of the "CHANNEL +/-", "VOLUME", "MUTE" and digit (0-9) keys).

5.3 Stepwise Start-up

The stepwise start-up method, as known from FTL/FTP sets is not valid any more. The situation for this chassis is as follows: when the TV is in a protection state detected via the Stand-by Processor (and thus blinking an error) **and** SDM is activated via short cutting the pins on the SSB, the TV starts up until it reaches the situation just before protection. So, this is a kind of automatic stepwise start-up. In combination with the start-up diagrams below, you can see which supplies are present at a certain moment.

Important to know here is, that if e.g. the 3V3 detection fails (and thus error 11 is blinking) **and** the TV is restarted via SDM, the Stand-by Processor will enable the 3V3, but will not go to protection now. The TV will stay in this situation until it is reset (Mains/AC Power supply interrupted).

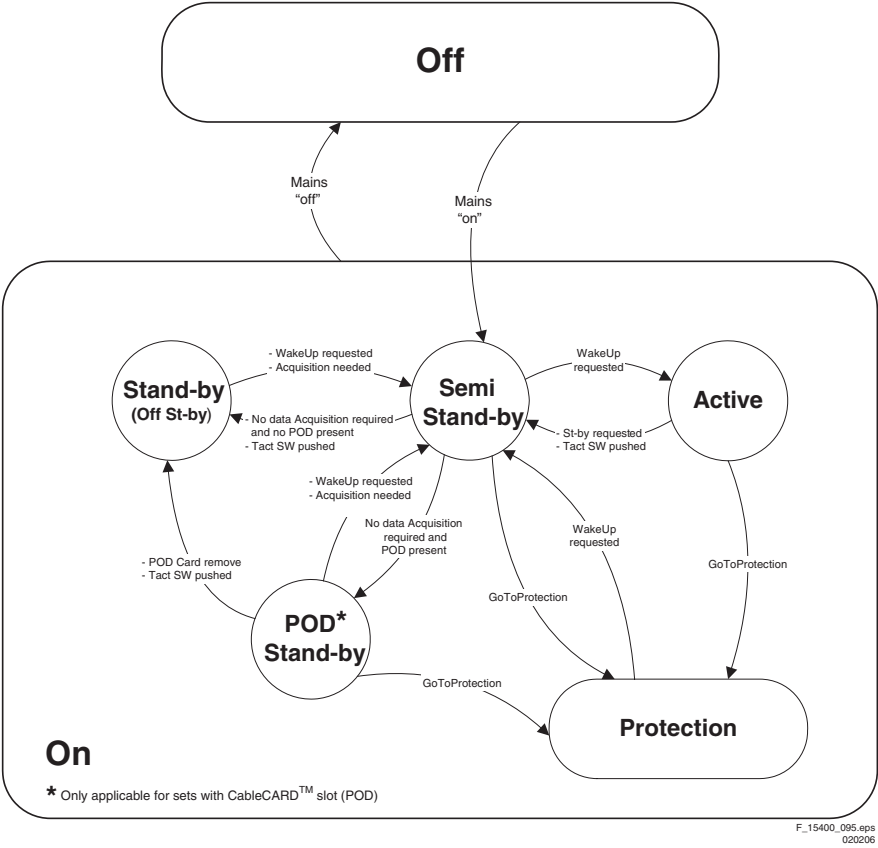
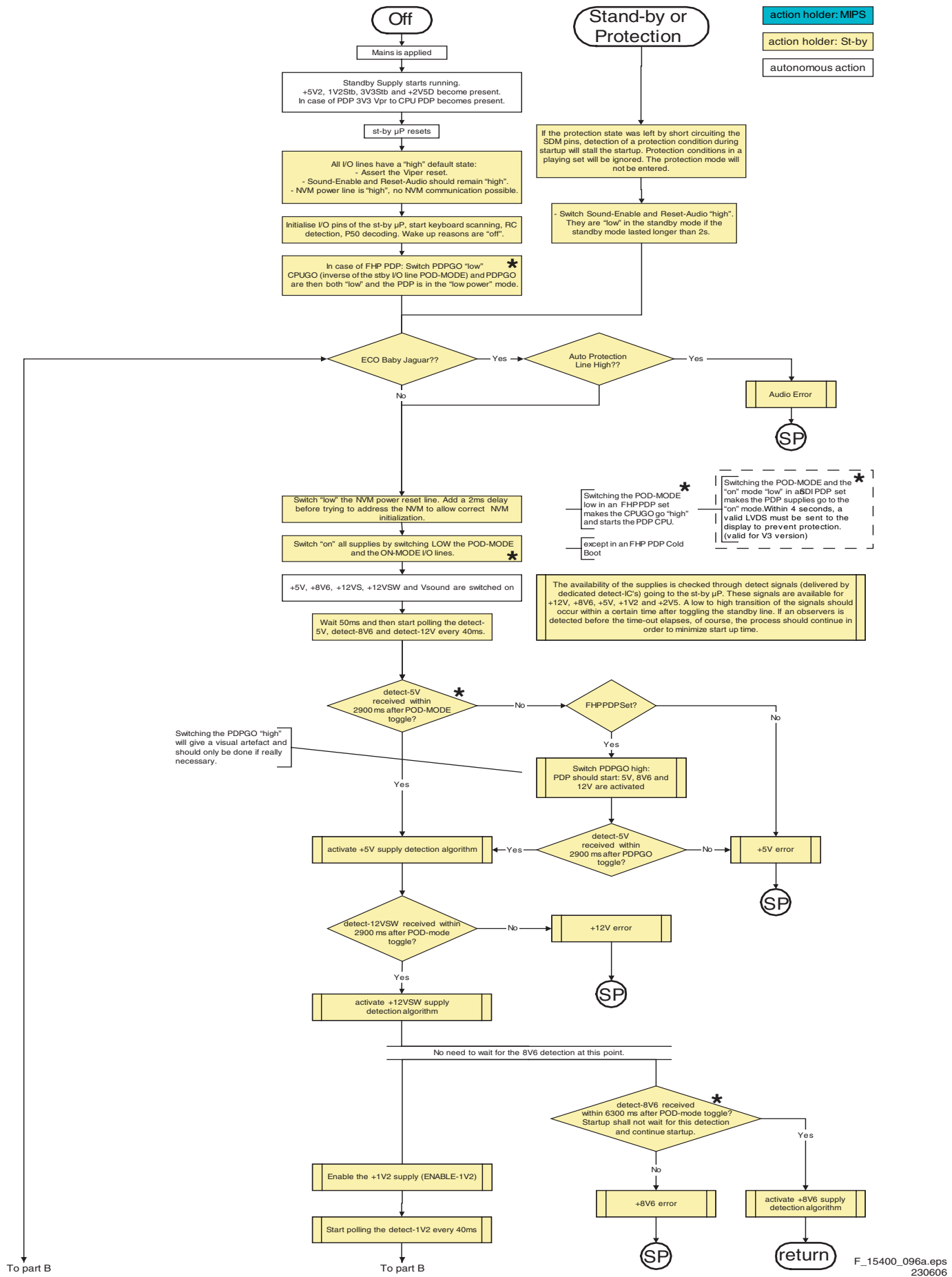


Figure 5-5 Transition diagram



* Only applicable for sets with CableCARD™ slot (POD)

Figure 5-6 "OFF" to "Semi Stand-by" flowchart (part 1)

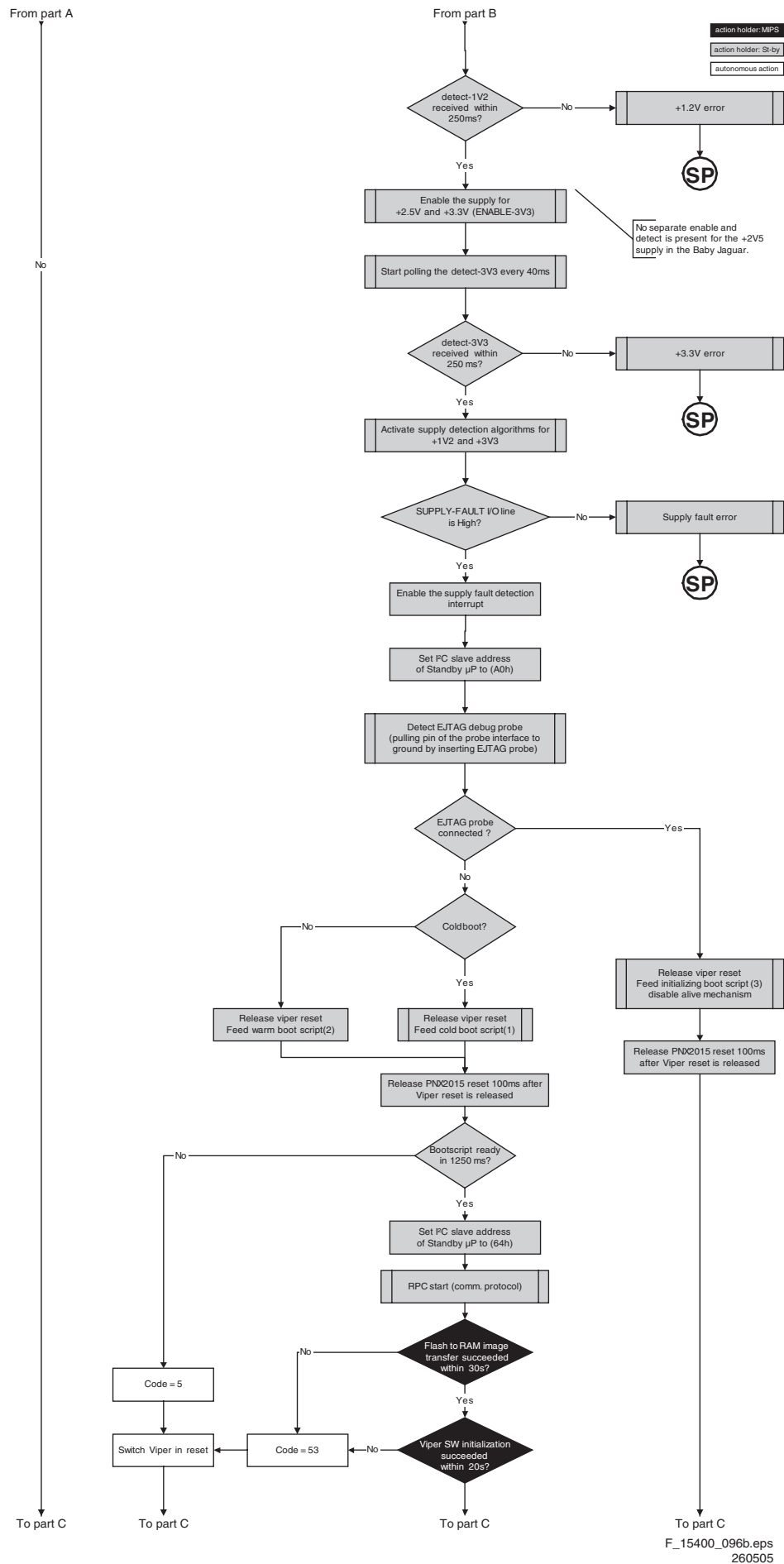
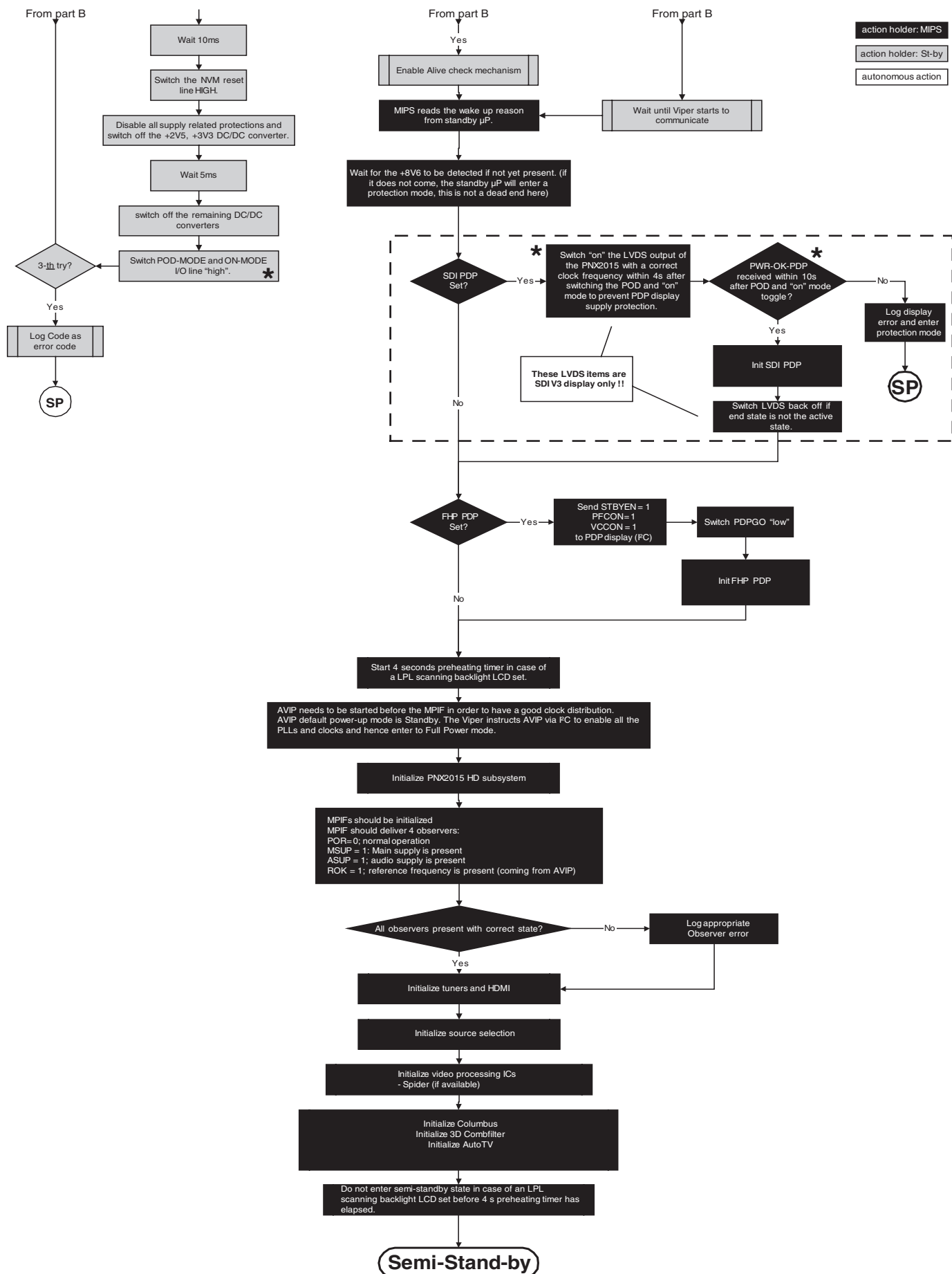


Figure 5-7 “OFF” to “Semi Stand-by” flowchart (part 2)



* Only applicable for sets with CableCARD™ slot (POD)

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Figure 5-8 "OFF" to "Semi Stand-by" flowchart (part 3)

action holder: MIPS

action holder: St-by

autonomous action

26" / 32" / 37" / 42" LCD LPL

Semi Standby

Wait until previous on-state is left more than 2 seconds ago. (to prevent LCD display problems)

Assert RGB video blanking and audio mute

Initialize audio and video processing ICs and functions according needed use case.

Wait until QVCP generates a valid LVDS output clock.

Switch "on" 12V LCD supply (LCD-Power-on)

Start to apply valid interface signals to the module (LVDS) within a time frame of min. 17.5ms to max. 67.5ms after supply switch "on". In implementation, use 25ms, this makes it compatible with 37HD"Sharp (t=17.5ms is the supply switch-on delay taken into account)

Wait 250ms (min. = 200ms)

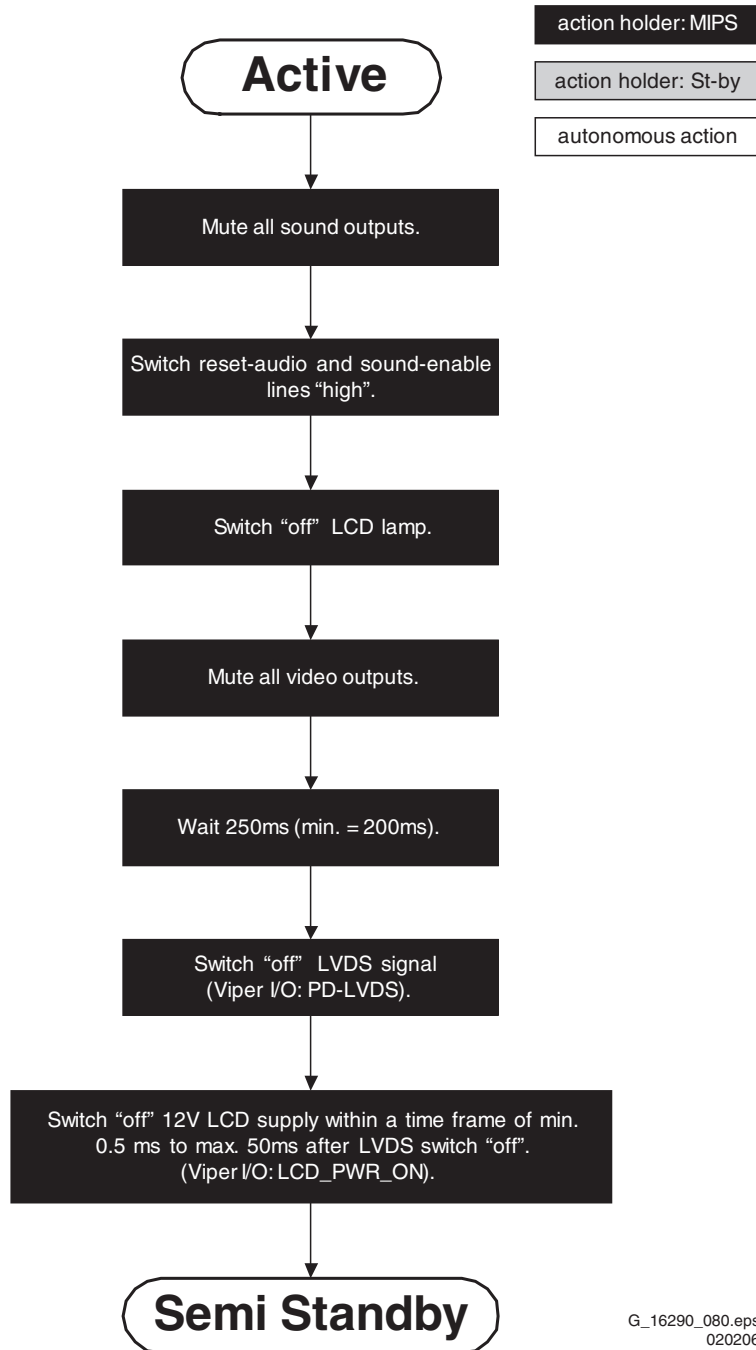
Switch "off" RGB blanking

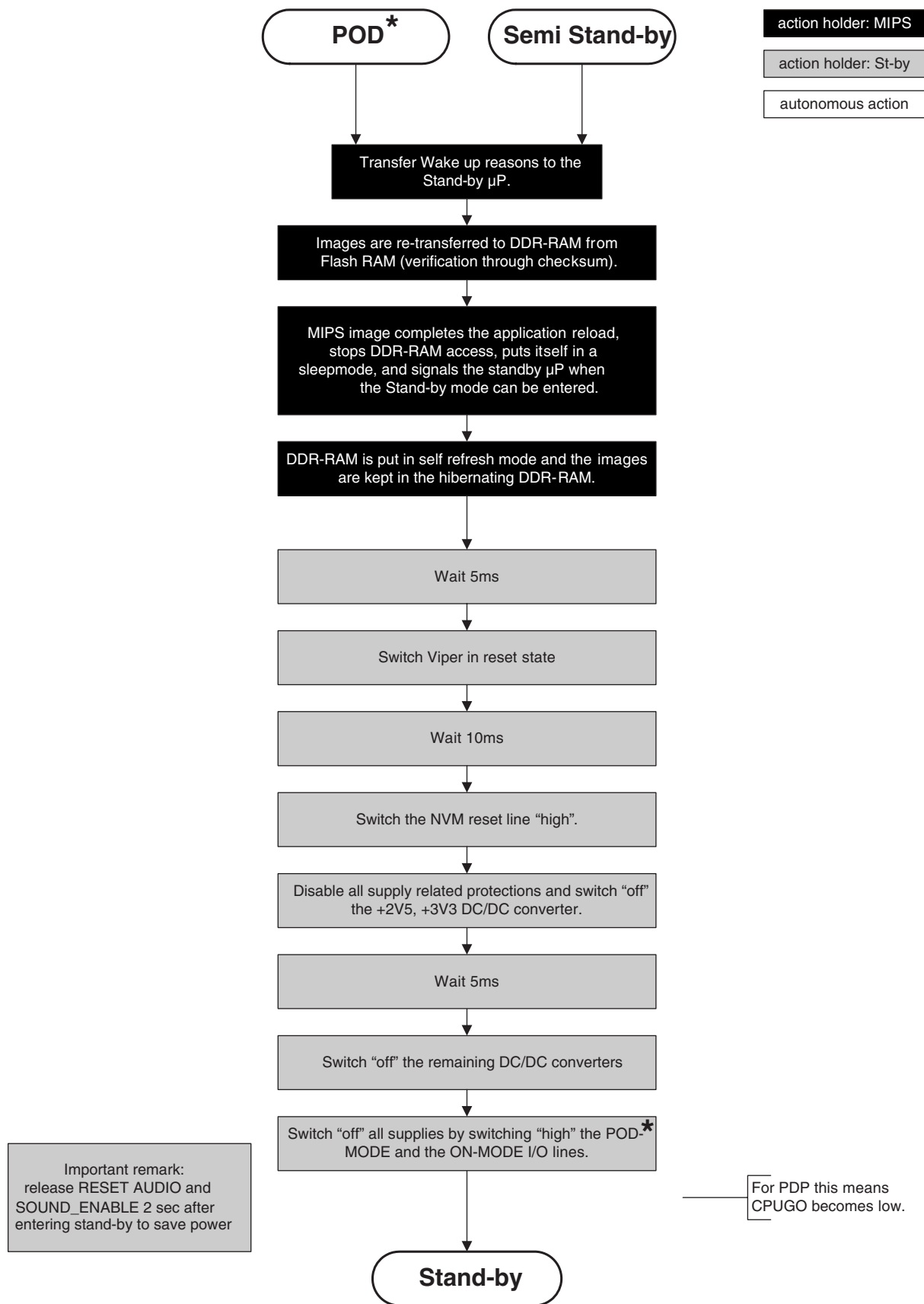
Switch "on" LCD lamp after valid, stable video, corresponding to the requested output is delivered by the Viper

Switch Audio-Reset and sound enable "low" and demute

ActiveG_16290_079..eps
020206

Figure 5-9 "Semi Stand-by" to "Active" flowchart

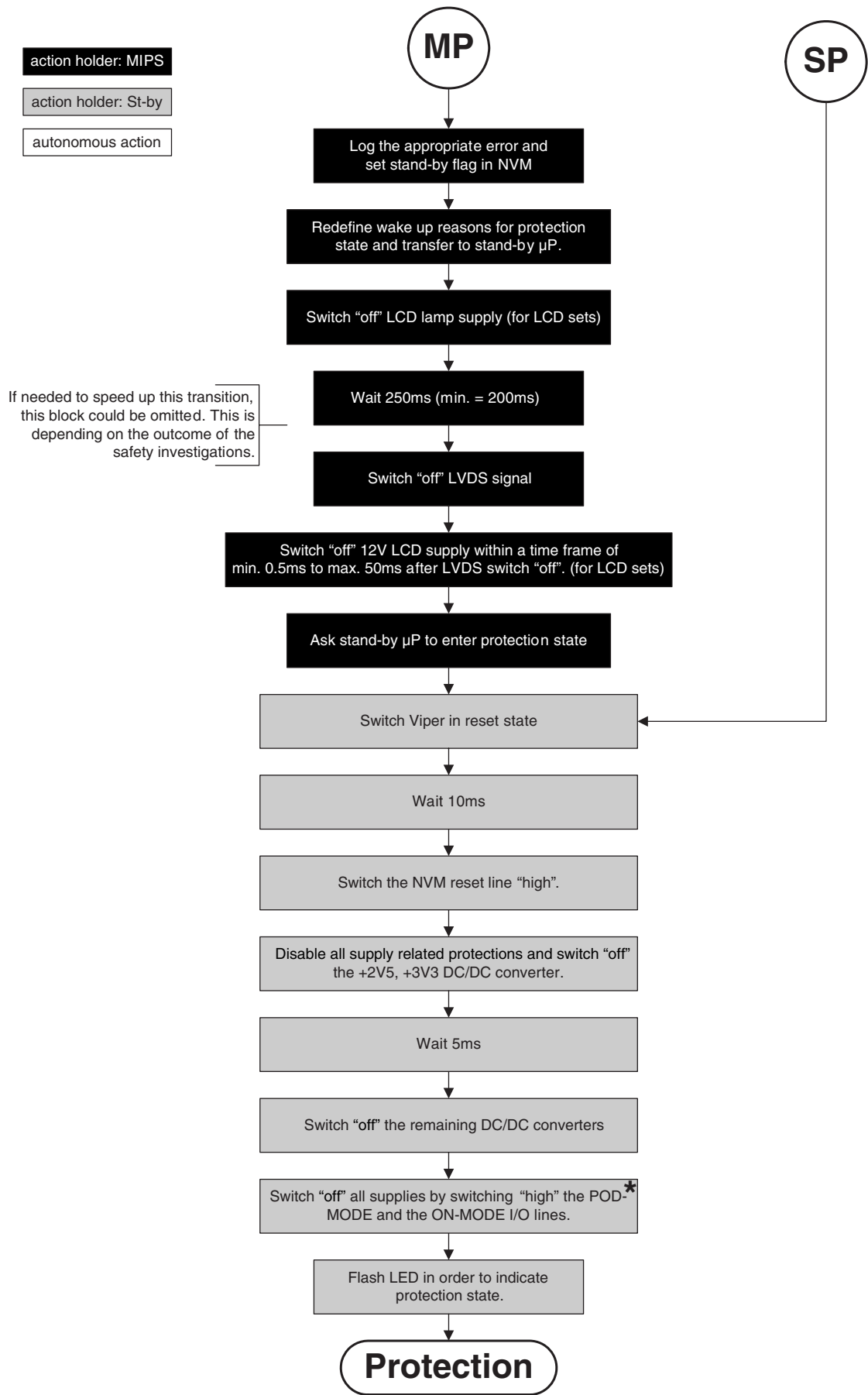
26" / 32" / 37" / 42" LCD LPL**Figure 5-10 "Active" to "Semi Stand-by" flowchart**



* Only applicable for sets with CableCARD™ slot (POD)

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Figure 5-11 "Semi Stand-by" to "Stand-by" flowchart



^{*} Only applicable for sets with CableCARD™ slot (POD)

Figure 5-12 “Protection” flowchart

5.4 Service Tools

5.4.1 ComPair

Introduction

ComPair (Computer Aided Repair) is a service tool for Philips Consumer Electronics products. ComPair is a further development on the European DST (service remote control), which allows faster and more accurate diagnostics. ComPair has three big advantages:

1. ComPair helps you to quickly get an understanding on how to repair the chassis in a short time by guiding you systematically through the repair procedures.
2. ComPair allows very detailed diagnostics and is therefore capable of accurately indicating problem areas. You do not have to know anything about I2C or UART commands yourself because ComPair takes care of this.
3. ComPair speeds up the repair time since it can automatically communicate with the chassis (when the microprocessor is working) and all repair information is directly available.

Specifications

ComPair consists of a Windows based fault finding program and an interface box between PC and the (defective) product. The (new) ComPair II interface box is connected to the PC via an USB cable. For the TV chassis, the ComPair interface box and the TV communicate via a bidirectional service cable via the service connector(s).

The ComPair fault finding program is able to determine the problem of the defective television. ComPair can gather diagnostic information in two ways:

- **Automatically** (by communicating with the television): ComPair can automatically read out the contents of the entire error buffer. Diagnosis is done on I2C/UART level. ComPair can access the I2C/UART bus of the television. ComPair can send and receive I2C/UART commands to the micro controller of the television. In this way, it is possible for ComPair to communicate (read and write) to devices on the I2C/UART buses of the TV-set.
- **Manually** (by asking questions to you): Automatic diagnosis is only possible if the micro controller of the television is working correctly and only to a certain extent. When this is not the case, ComPair will guide you through the fault finding tree by asking you questions (e.g. *Does the screen give a picture? Click on the correct answer: YES / NO*) and showing you examples (e.g. *Measure test-point I7 and click on the correct oscillogram you see on the oscilloscope*). You can answer by clicking on a link (e.g. text or a waveform picture) that will bring you to the next step in the fault finding process.

By a combination of automatic diagnostics and an interactive question/answer procedure, ComPair will enable you to find most problems in a fast and effective way.

How to Connect

This is described in the chassis fault finding database in ComPair.

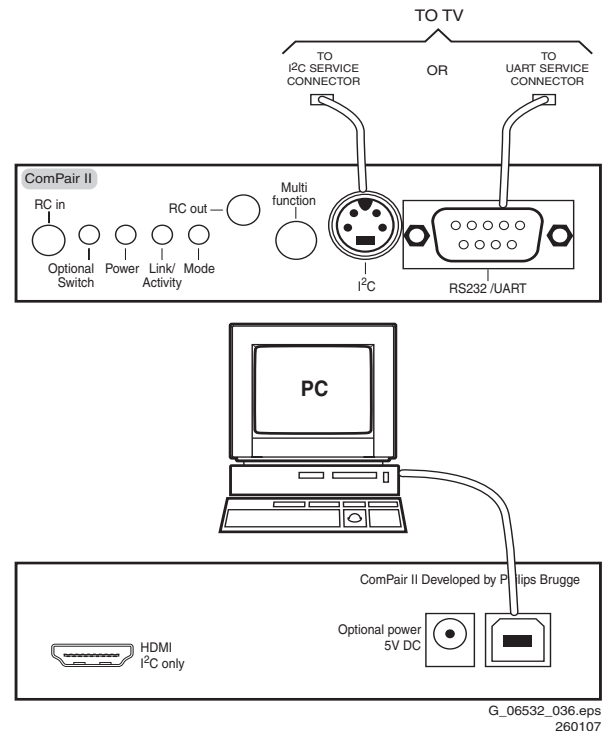


Figure 5-13 ComPair II interface connection

Caution: It is compulsory to connect the TV to the PC as shown in the picture above (with the ComPair interface in between), as the ComPair interface acts as a level shifter. If one connects the TV directly to the PC (via UART), ICs will be blown!

How to Order

ComPair II order codes:

- ComPair II interface: 3122 785 91020.
- ComPair32 CD (update): 3122 785 60160.
- ComPair interface cable: 3122 785 90004.
- ComPair interface extension cable: 3139 131 03791.
- ComPair UART interface cable: 3122 785 90630.

Note: If you encounter any problems, contact your local support desk

5.4.2 LVDS Tool

!!! Note: At this moment, the LVDS tool does **not** support this chassis **!!!**

Introduction

This service tool (also called "ComPair Assistant 1") may help you to identify, in case the TV does not show any picture, whether the Small Signal Board (SSB) **or** the display of a Flat TV is defective.

Generally this tool is intended to determine if the SSB is working or not. Thus to determine if LVDS, RGB, and sync signals are okay.

How to Connect

Connections are explained in the user manual, which is packed with the tool.

How to Order

- LVDS tool (incl. two LVDS cables: 31p and 20p): 3122 785 90671.
- LVDS tool Service Manual: 3122 785 00810.

5.5 Error Codes

5.5.1 Introduction

The error code buffer contains all detected errors since the last time the buffer was erased. The buffer is written from left to right, new errors are logged at the left side, and all other errors shift one position to the right.

When an error has occurred, the error is added to the list of errors, provided the list is not full or the error is a protection error.

When an error occurs and the error buffer is full, then the new error is not added, and the error buffer stays intact (history is maintained), except when the error is a protection error.

To prevent that an occasional error stays in the list forever, the error is removed from the list after 50+ operation hours.

When multiple errors occur (errors occurred within a short time span), there is a high probability that there is some relation between them.

Basically there are three kinds of errors:

- **Errors detected by the Stand-by Processor.** These errors will always lead to protection and an automatic change of the blinking LED for the concerned error (see paragraph "The Blinking LED Procedure"). In these cases SDM can be used to start up (see chapter "Stepwise Start-up").
- **Errors detected by VIPER that lead to protection.** In this case the TV will go to protection and the front LED will blink at 3 Hz. Further diagnosis via service modes is not possible here (see also paragraph "Error Codes" -> "Error Buffer" -> "Extra Info").
- **Errors detected by VIPER that do not lead to protection.** In this case the error can be read out via ComPair, via the blinking LED method, or in case you have picture, via SAM.

5.5.2 How to Read the Error Buffer

Use one of the following methods:

- On screen via the SAM (only if you have a picture). E.g.:
 - **00 00 00 00 00:** No errors detected
 - **06 00 00 00 00:** Error code 6 is the last and only detected error
 - **09 06 00 00 00:** Error code 6 was first detected and error code 9 is the last detected error
- Via the blinking LED procedure (when you have no picture). See next paragraph.
- Via ComPair.

5.5.3 How to Clear the Error Buffer

Use one of the following methods:

- By activation of the "RESET ERROR BUFFER" command in the SAM menu.
- With a normal RC, key in sequence "MUTE" followed by "062599" and "OK".
- If the content of the error buffer has not changed for 50+ hours, it resets automatically.

5.5.4 Error Buffer

In case of non-intermittent faults, clear the error buffer before you begin the repair (**before** clearing the buffer, write down the content, as this history can give you significant information).

This to ensure that old error codes are no longer present.

If possible, check the entire contents of the error buffer. In some situations, an error code is only the result of another error code and not the actual cause (e.g., a fault in the protection detection circuitry can also lead to a protection).

There are several mechanisms of error detection:

- Via error bits in the status registers of ICs.
- Via polling on I/O pins going to the stand-by processor.
- Via sensing of analogue values on the stand-by processor.
- Via a "not acknowledge" of an I²C communication

Take notice that some errors need more than 90 seconds before they start blinking. So in case of problems wait 2 minutes from start-up onwards, and then check if the front LED is blinking.

Table 5-2 Error code overview

Error	Description	Error/Prot	Detected by	Device	Defective module	Result
1	I ² C1	P	VIPER	n.a.	I ² C1_blocked	Protection + 3 Hz blinking
2	I ² C2	P	VIPER	n.a.	I ² C2_blocked	Protection + 3 Hz blinking
3	I ² C3	P	Stby µP	n.a.	I ² C3_blocked	Protection + 3 Hz blinking
4	I ² C4	E	VIPER	n.a.	I ² C4_blocked	Protection + 3 Hz blinking
5	VIPER does not boot (hardware failure)	P	Stby µP	n.a.		Protection + Error blinking
6	5V supply	P	Stby µP	n.a.		Protection + Error blinking
8	1.2V DC/DC	P	Stby µP	n.a.		Protection + Error blinking
11	3.3V DC/DC	P	Stby µP	n.a.		Protection + Error blinking
12	12V supply	P	Stby µP	n.a.		Protection + Error blinking
14	Supply Class D amplifiers	P	Stby µP			Protection + Error blinking
18	MPIF1 ref freq	E	VIPER	PNX3000	IF I/O	Error logged
21	HDMI Mux switch	E		AD8190ACPZ		
25	Supply fault	P	Stby µP			Protection + Error blinking
32	MPIF1	E	VIPER	PNX3000	Analog Front End 1	Error logged
34	Tuner1	E	VIPER	Tuner type	Tuner 1	Error logged
37	Channel decoder	E	VIPER	NXT2004		Error logged
43	Hi Rate Front End	E	VIPER	TDA9975	HDMI	Error logged
45	Columbus 1	E	VIPER	PNX2015 or 2018	Comb filter	Error logged
46	Pacific 3	E	VIPER	T6TF4HFG		Standby
53	VIPER does not boot (software failure)	P	Stby µP	PNX8550		Protection (after 3 minutes) + Error blinking

Extra Info

- **Error 1 (I²C bus 1 blocked).** When this error occurs, the TV will go to protection and the front LED will blink at 3 Hz. Now you can partially restart the TV via the SDM shortcut pins on the SSB. Depending on the software version it is possible that no further diagnose (error code read-out) is possible. With the knowledge that only errors 1, 2, 4, and 63 result in a 3 Hz blinking LED, the range of possible defects is limited.
- **Error 2 (I²C bus 2 blocked).** When this error occurs, the TV will go to protection and the front LED will blink at 3 Hz. Now you can partially restart the TV via the SDM shortcut pins on the SSB. Due to hardware restriction (I²C bus 2 is the fast I²C bus) it will be impossible to start up the VIPER and therefore it is also impossible to read out the error codes via ComPair or via the blinking LED method. With the knowledge that only errors 1, 2, 4, and 63 result in a 3 Hz blinking LED, the range of possible defects is limited. When you have restarted the TV via the SDM shortcut pins, and then pressed "CH+" on your remote control, the TV will go to protection again, and the front LED blink at 3 Hz again. This could be an indication that the problem is related to error 2.
- **Error 3 (I²C bus 3 blocked).** There are only three devices on I²C bus 3: VIPER, Stand-by Processor, and NVM. The Stand-by Processor is the detection device of this error, so this error will only occur if the VIPER or the NVM is blocking the bus. This error will also be logged when the NVM gives no acknowledge on the I²C bus (see error 44). Note that if the 12 V supply is missing (connector 1M46 on the SSB), the DC/DC supply on the SSB will not work. Therefore the VIPER will not get supplies and could block I²C bus 3. So, a missing 12 V can also lead to an error 3.
- **Error 4 (I²C bus 4 blocked).** Error 4 is displayed in SAM. No protection.
- **Error 5 (Viper doesn't boot).** This error will point to a severe hardware problem around the VIPER (supplies not OK, VIPER completely dead, I²C link between VIPER and Stand-by Processor broken, etc. ...).
- **Error 7 (8.6 V error).** Except a physical problem with the 8.6 V itself, it is also possible that there is something wrong with the Audio DC Protection: see paragraph "Hardware Protections" for this.
- **Error 12 (12 V error).** Except a physical problem with the 12 V itself, it is also possible that there is something wrong with the Audio DC Protection: see paragraph "Hardware Protections" for this.
- **Error 14 (Audio supply).** This error is triggered in case of too low voltage of the audio supplies and therefore a drop of the audio supply voltage of below approx. 9 V per supply rail (or lower than 18 V rail to rail). Also a DC voltage of higher than 1 V DC on the speakers will lead to protection and error 14 blinking. For LCD sets this circuit can be found on schematic SA3, for PDP sets this can be found on schematic C. It should be noted that for 26-inch models there is only a supply link between the amplifiers and the stand-by μ C whereas in all other models this link is implemented by Audio-Prot line pin 7 on 1 M02.
- **Error 18 (MPIF1).** Error 18 is displayed in SAM. No protection.
- **Error 21 (HDMI switch).** Error 21 is displayed in SAM. No protection.
- **Error 25 (Supply fault).** When this error occurs, the TV will go to protection and the front LED will blink at 3 Hz.
- **Error 29 (AVIP1).** This error will probably generate extra errors. You will probably also see errors 32 (MPIF) and error 31 (AVIP 2). Error 29 and 31 will always be logged together due to the fact that both AVIPs are inside the PNX2015 and are on the same I²C bus. In this case start looking for the cause around AVIP (part of PNX2015).
- **Error 31 (AVIP2).** See info on error 29.
- **Error 34 (Tuner 1).** When this error is logged, it is not sure that there is something wrong with the tuner itself. It is also possible that there is something wrong with the

communication between channel decoder and tuner. See schematic B2B.

- **Error 37 (Channel decoder).** This error will always log error 34 (tuner) extra. This is due to the fact that the tuner I²C bus is coming from the channel decoder.
- **Error 44 (NVM).** This error will never occur because it is masked by error 3 (I²C bus 3). The detection mechanism for error 3 checks on an I²C acknowledge of the NVM. If NVM gives no acknowledge, the stand-by software assumes that the bus is blocked, the TV goes to protection and error 3 will be blinking.
- **Error 53.** This error will indicate that the VIPER has started to function (by reading his boot script, if this would have failed, error 5 would blink) but initialization was never completed because of hardware peripheral problems (NAND flash, ...) or software initialization problems. Possible cause could be that there is no valid software loaded (try to upgrade to the latest main software version).

5.6 The Blinking LED Procedure

5.6.1 Introduction

The blinking LED procedure can be split up into two situations:

- Blinking LED procedure in case of a protection detected by the stand-by processor. In this case the error is automatically blinked. This will be only one error, namely the one that is causing the protection. Therefore, you do not have to do anything special, just read out the blinks. A long blink indicates the decimal digit, a short blink indicates the units.
- Blinking LED procedure in the "ON" state. Via this procedure, you can make the contents of the error buffer visible via the front LED. This is especially useful for fault finding, when there is no picture.

When the blinking LED procedure is activated in the "ON" state, the front LED will show (blink) the contents of the error-buffer. Error-codes > 10 are shown as follows:

1. "n" long blinks (where "n" = 1 - 9) indicating decimal digit,
2. A pause of 1.5 s,
3. "n" short blinks (where "n" = 1 - 9),
4. A pause of approx. 3 s.
5. When all the error-codes are displayed, the sequence finishes with a LED blink of 3 s,
6. The sequence starts again.

Example: Error 12 9 6 0 0.

After activation of the SDM, the front LED will show:

1. 1 long blink of 750 ms (which is an indication of the decimal digit) followed by a pause of 1.5 s,
2. 2 short blinks of 250 ms followed by a pause of 3 s,
3. 9 short blinks followed by a pause of 3 s,
4. 6 short blinks followed by a pause of 3 s,
5. 1 long blink of 3 s to finish the sequence,
6. The sequence starts again.

5.6.2 How to Activate

Use one of the following methods:

- **Activate the SDM.** The blinking front LED will show the entire contents of the error buffer (this works in "normal operation" mode).
- **Transmit the commands "MUTE" - "06250x" - "OK" with a normal RC.** The complete error buffer is shown. Take notice that it takes some seconds before the blinking LED starts.
- **Transmit the commands "MUTE" - "06250x" - "OK" with a normal RC** (where "x" is a number between 1 and 5). When x= 1 the last detected error is shown, x= 2 the second last error, etc.... Take notice that it takes some seconds before the LED starts blinking.

5.7 Protections

5.7.1 Software Protections

Most of the protections and errors use either the stand-by microprocessor or the VIPER controller as detection device. Since in these cases, checking of observers, polling of ADCs, filtering of input values are all heavily software based, these protections are referred to as software protections.

There are several types of software related protections, solving a variety of fault conditions:

- **Protections related to supplies:** check of the 12V, +5V, +8V6, +1.2V, +2.5V and +3.3V.
- **Protections related to breakdown of the safety check mechanism.** E.g. since a lot of protection detections are done by means of the VIPER, failing of the VIPER communication will have to initiate a protection mode since safety cannot be guaranteed anymore.

Remark on the Supply Errors

The detection of a supply dip or supply loss during the normal playing of the set does not lead to a protection, but to a cold reboot of the set.

Protections during Start-up

During TV start-up, some voltages and IC observers are actively monitored to be able to optimize the start-up speed, and to assure good operation of all components. If these monitors do not respond in a defined way, this indicates a malfunction of the system and leads to a protection. As the observers are only used during start-up, they are described in the start-up flow in detail (see paragraph "Stepwise Start-up").

5.7.2 Hardware Protections

There is one hardware protection in this chassis: "Audio DC Protection". This protection occurs when there is a DC voltage on the speakers. In that case the main supply is switched "OFF", but the stand-by supply is still working.

In case of LCD supplies, the 12V supply will drop. This will be detected by the stand-by processor, which will start blinking the 12 V error (error 12).

Repair Tip

- It is also possible that you have an audio DC protection because of an interruption in one or both speakers (the DC voltage that is still on the circuit cannot disappear through the speakers).

5.8 Fault Finding and Repair Tips

Read also paragraph "Error Codes" - "Extra Info".

5.8.1 Exit "Factory Mode"

When an "F" is displayed in the screen's right corner, this means that the set is in "Factory" mode, and it normally happens after a new SSB has been mounted.

To exit this mode, push the "VOLUME minus" button on the TV's keyboard control for 5 seconds and restart the set

5.8.2 MPIF

Important things to make the MPIF work:

- Supply.
- Clock signal from the AVIP.
- I²C from the VIPER.

5.8.3 AVIP

Important things to make the AVIP work:

- Supplies.
- Clock signal from the VIPER.
- I²C from the VIPER (error 29 and 31).

5.8.4 DC/DC Converter

Introduction

- The best way to find a failure in the DC/DC converters is to check their starting-up sequence at power "ON" via the Mains/AC Power cord, presuming that the Stand-by Processor is operational.
- If the input voltage of the DC/DC converters is around 12 V (measured on the decoupling capacitors 2U17/2U25/2U45) and the ENABLE signals are "low" (active), then the output voltages should have their normal values.
- First, the Stand-by Processor activates the +1V2 supply (via ENABLE-1V2).
- Then, after this voltage becomes present and is detected OK (about 100 ms), the other two voltages (+2V5 and +3V3) will be activated (via ENABLE-3V3).
- The current consumption of controller IC 7U00 is around 20 mA (that means around 200 mV voltage drop across resistor 3U22).
- The current capability of DC/DC converters is quite high (short-circuit current is 7 to 10 A), therefore if there is a linear integrated stabilizer that, for example delivers 1.8V from +3V3 with its output overloaded, the +3V3 stays usually at its normal value even though the consumption from +3V3 increases significantly.
- The +2V5 supply voltage is obtained via a linear stabilizer made with discrete components that can deliver a lot of current. Therefore, in case +2V5 (or +2V5D) is short-circuited to GND, the +3V3 will not have the normal value but much less.
- The supply voltage +12VSW is protected for over-currents by fuse 1U04.

Fault Finding

- **Symptom:** +1V2, +2V5, and +3V3 not present (even for a short while ~10ms).
 1. Check 12V availability (fuse 1U01, resistor 3U22, power MOSFETs) and enable signal ENABLE-1V2 (active low).
 2. Check the voltage on pin 9 (1.5 V).
 3. Check for +1V2 output voltage short-circuit to GND that can generate pulsed over-currents 7-10 A through coil 5U03.
 4. Check the over-current detection circuit (2U12 or 3U97 interrupted).

- **Symptom:** +1V2 present for about 100 ms. Supplies +2V5 and +3V3 not rising.
 1. Check the ENABLE-3V3 signal (active "low").
 2. Check the voltage on pin 8 (1.5 V).
 3. Check the under-voltage detection circuit (the voltage on collector of transistor 7U10-1 should be less than 0.8 V).
 4. Check for output voltages short-circuits to GND (+3V3, +2V5 and +2V5D) that generate pulsed over-currents of 7-10 A through coil 5U00.
 5. Check the over-current detection circuit (2U18 or 3U83 interrupted).
- **Symptom:** +1V2 OK, but +2V5 and +3V3 present for about 100 ms. **Cause:** The SUPPLY-FAULT line stays "low" even though the +3V3 and +1V2 is available. The Stand-by Processor is detecting that and switches all supply voltages "OFF".
 1. Check the drop voltage across resistor 3U22 (this could be too high)
 2. Check if the +1V2 or +3V3 are higher than their normal values. This can be due to defective DC feedback of the respective DC/DC converter (3U18 or 3UA7).
- **Symptom:** +1V2, +2V5, and +3V3 look okay, except the ripple voltage is increased (audible noise can come from the filtering coils 5U00 or 5U03).
Cause: Instability of the frequency and/or duty cycle of one or both DC/DC converters.
 - Check resistor 3U06, the decoupling capacitors, the AC feedback circuits (2U20 + 2U21 + 3U14 + 3U15 for +1V2 or 2U19 + 2U85 + 3U12 + 3U13 for +3V3), the compensation capacitors 2U09, 2U10, 2U23 and 2U73, and IC 7U00.

Note 1: If fuse 1U01 is broken, this usually means a pair of defective power MOSFETs (7U01 or 7U03). Item 7U00 should be replaced as well in this case.

5.9 Software Upgrading

5.9.1 Introduction

The set software and security keys are stored in a NAND-Flash (item 7P80), which is connected to the VIPER via the PCI bus.

It is possible **for the user** to upgrade the **main** software via the USB port. This allows replacement of a software image in a standalone set, without the need of an E-JTAG debugger. A description on how to upgrade the main software can be found in the "Directions For Use".

Important: When the NAND-Flash must be replaced, a new SSB must be ordered, due to the presence of the security keys!!! See table "SSB service kits" for the order codes.

Perform the following actions after SSB replacement:

1. Set the correct option codes (see sticker inside the TV).
2. Update the TV software (see chapter 3 for instructions).
3. Perform the alignments as described in chapter 8.
4. Check in CSM menu 5 if the HDMI and POD keys are valid.

Table 5-3 SSB service kits (for EJ3.0U LA chassis)

Model Number	New SSB order code
all CTNs	See spare parts list

Note: After replacing the SSB, execute the alignments according to the instructions in this manual.

5.9.2 Main Software Upgrade

The software image resides in the NAND-Flash, and is formatted in the following way:

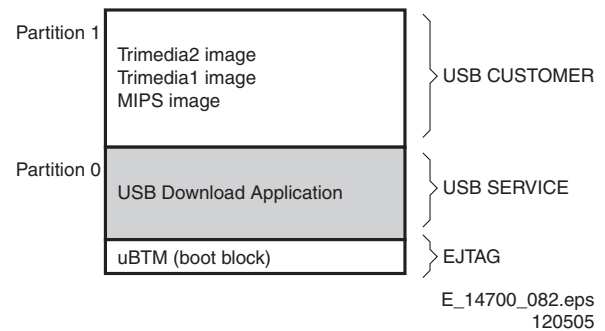


Figure 5-14 NAND-Flash format

Executables are stored as files in a file system. The boot loader (uBTM) will load the USB Download Application in partition 0 (USB drivers, bootscript, etc.). This application makes it then possible to upgrade the main software via USB.

Installing "Partition 0" software is possible via an external EJTAG tool, but also in a special way with the USB stick (see description in paragraph "Partition 0").

Partition 1 (Customer)

To do a main software upgrade (partition 1) via USB, the set must be operational, and the "Partition 0" files for the VIPER **must** be installed in the NAND-Flash!

The new software can be uploaded to the TV by using a portable memory device or USB storage compliant devices (e.g. USB memory stick). You can download the new software from the Philips website to your PC.

Partition 0 (Service)

If the "Partition 0" software is corrupted, the software needs to be re-installed.

To upgrade this "USB download application" (partition 0 except the bootblock), insert an USB stick with the correct software, but press the "red" button on the remote control (in "TV" mode) when it is asked via the on screen text.

Caution:

- The USB download application will now erase **both** partitions (except the boot block), so you need to reload the main SW after upgrading the USB download application. As long as this is not done, the USB download application will start when the set is switched "ON".
- When something goes wrong during the progress of this method (e.g. voltage dip or corrupted software file), the set will not start up, and can only be recovered via the EJTAG tool!

5.9.3 Manual Start of the Main Software Upgrade Application

Normally, the software upgrading procedure will start automatically, when a memory device with the correct software is inserted, but in case this does not work, it is possible to force the TV into the software upgrade application. To do so:

- Disconnect the TV from the Mains/AC Power.
- Press the "OK" button on a Philips DVD RC-6 remote control (it is also possible to use the TV remote in "DVD" mode).
- Keep the "OK" button pressed while connecting the TV to the Mains/AC Power.
- The software upgrade application will start.
- When a memory device with upgrade software is connected, the upgrade process will start.

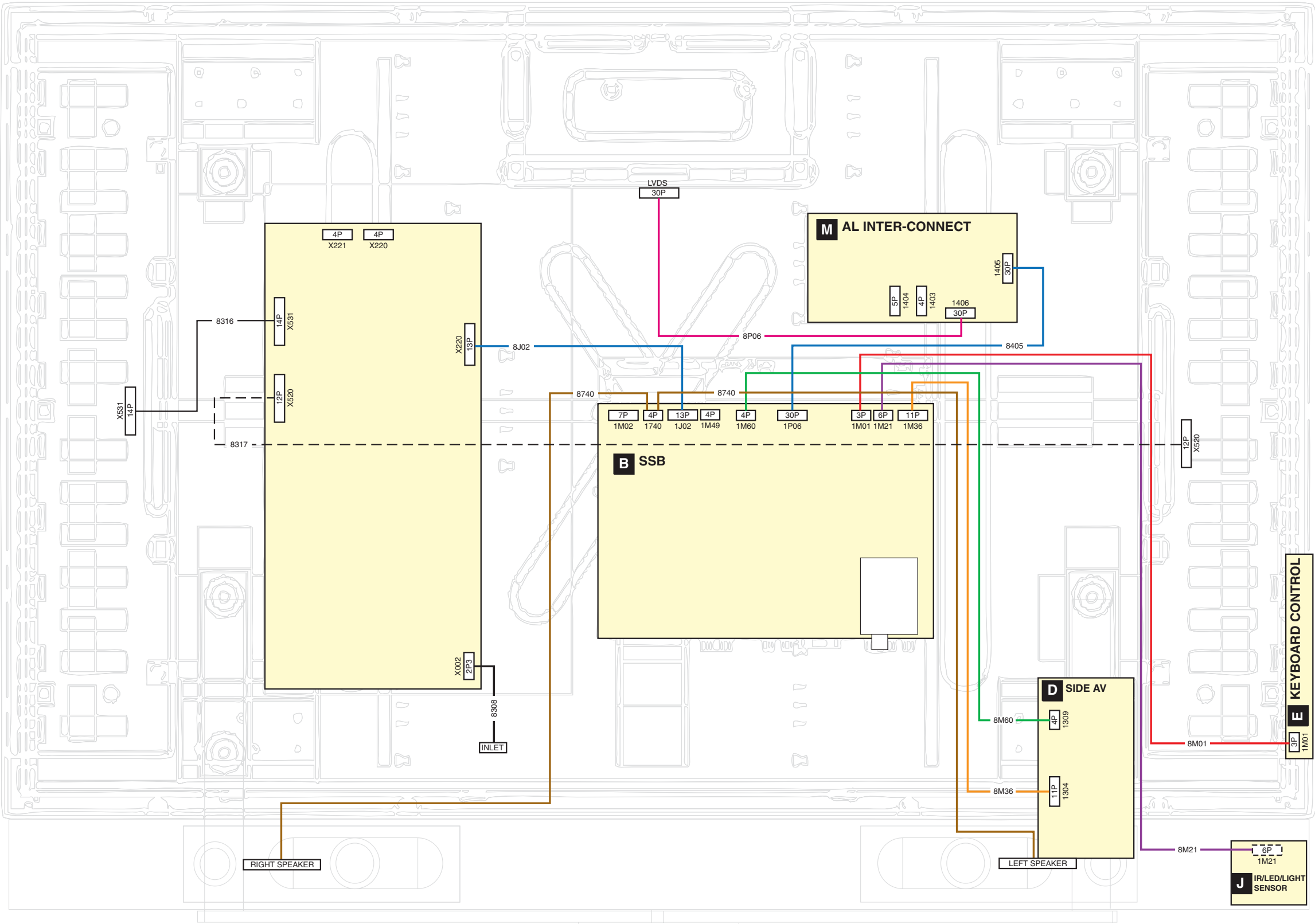
5.9.4 Stand-by Software Upgrade

It will be possible to upgrade the Stand-by software via a PC and the ComPair interface. Check paragraph "ComPair" on how to connect the interface. To upgrade the Stand-by software, use the following steps:

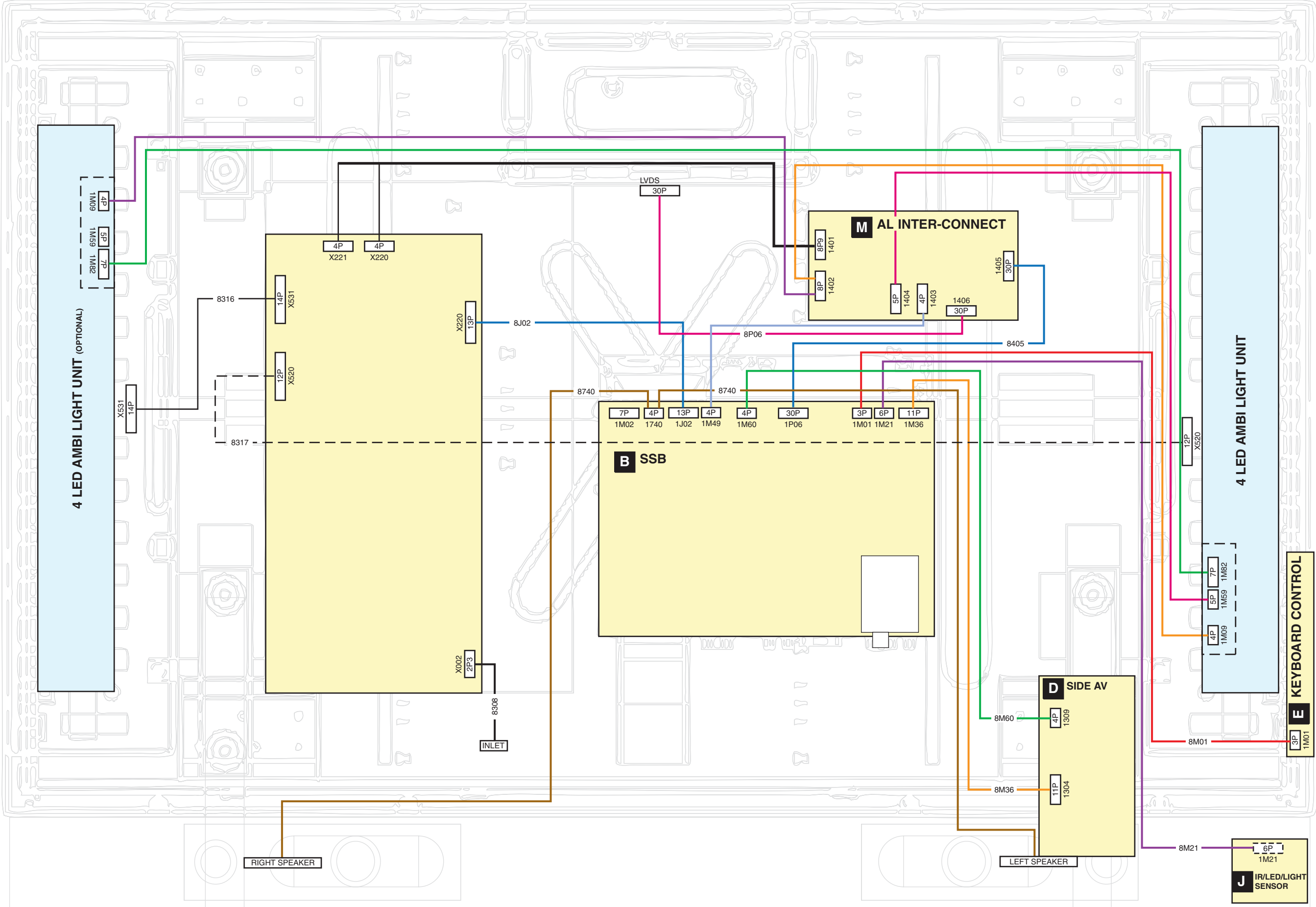
1. Disconnect the TV from the Mains/AC Power.
2. Short circuit the SPI pins [2] on the SSB. They are located outside the shielding (see figure "SDM and SPI service pads" earlier in this chapter).
3. Keep the SPI pins shorted while connecting the TV to the Mains/AC Power.
4. Release the short circuit after approx. two seconds.
5. Start up HyperTerminal (can be found in every Windows application via Programs -> Accessories -> Communications -> HyperTerminal. Use the following settings:
 - COM1
 - Bits per second = 38400
 - Data bits = 8
 - Parity = none
 - Stop bits = 1
 - Flow control = Xon / Xoff.
6. Press "Shift U" on your PC keyboard. You should now see the following info:
 - PNX2015 Loader V1.0
 - 19-09-2003
 - DEVID=0x05
 - Erasing
 - MCSUM=0x0000
 - =
7. If you do not see the above info, restart the above procedure, and check your HyperTerminal settings and the connections between PC and TV.
8. Via "Transfer" -> "Send text file ...", you can send the proper upgrade file to the TV. This file will be distributed via the Service Organization.
9. After successful programming, you must see the following info:
 - DCSUM=0xECB3
 - :Ok
 - MCSUM=0xECB3
 - Programming
 - PCSUM=0xECB3
 - Finished
10. If you do not see this info, restart the complete procedure.
11. Close HyperTerminal.
12. Disconnect and connect Mains/AC Power again.

6. Block Diagrams, Test Point Overviews, and Waveforms

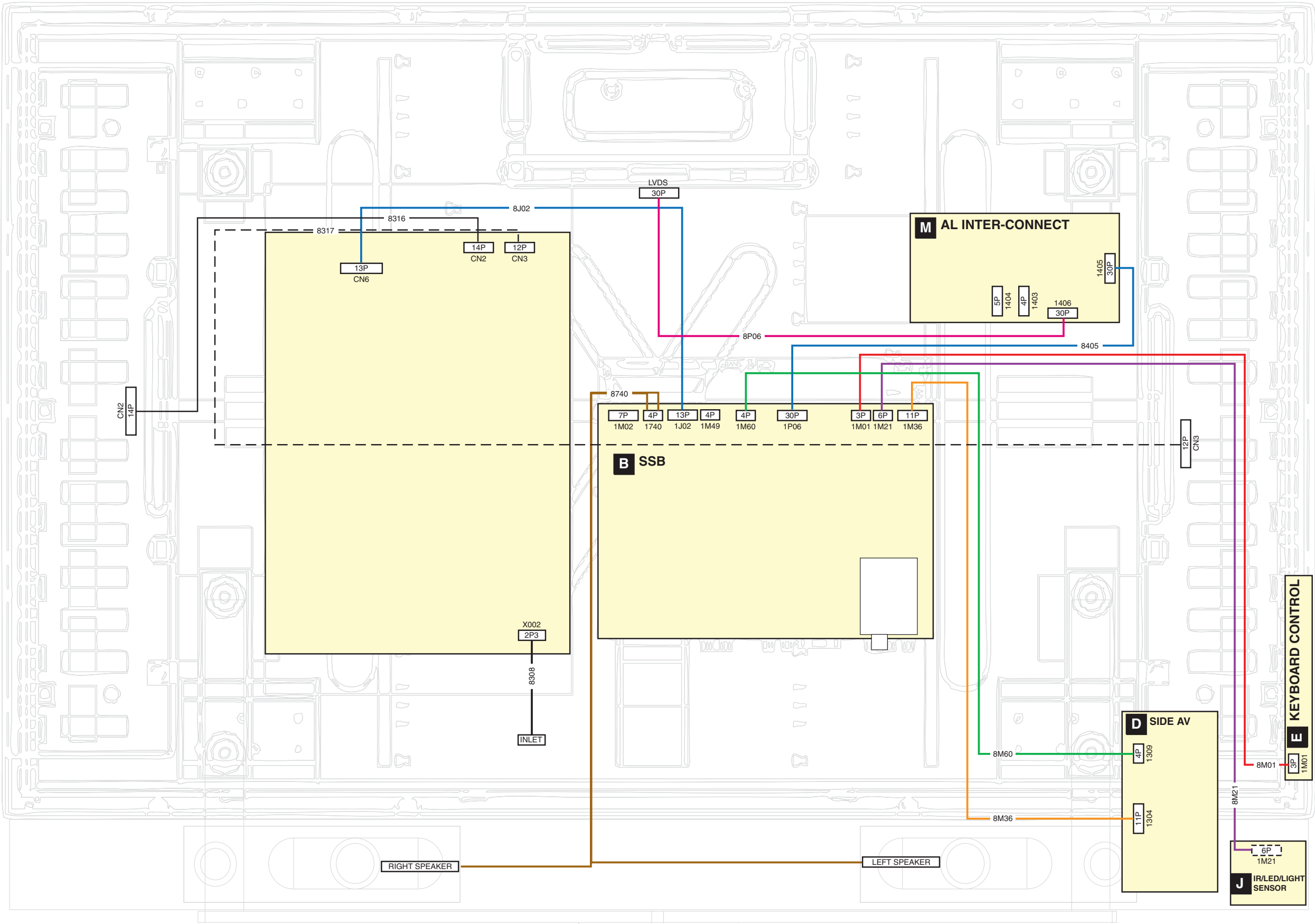
Wiring Diagram 32”
WIRING 32”



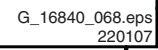
Wiring Diagram 32" AL
WIRING 32" AL



Wiring Diagram 37"-42"
WIRING 37"- 42"



1 2 3 4



A1	E2	IQ08	D3
F37	B2	IQ08	D3
I293	D3	IQ09	C2
I303	B3	IQ09	C3
I304	B2	IQ10	D3
I305	B2	IQ14	D2
I306	B3	IQ14	D2
I307	D3	IQ15	D1
I326	D1	IQ16	D1
I327	B3	IQ17	D1
I329	D1	IQ17	D1
I331	B3	IT31	A2
I386	A2	IT31	A2
I387	A2	IT46	A2
I388	D1	IT46	A2
I389	D1	IT47	A2
I390	D3	IT47	A2
I391	D1	IT48	A2
I392	D1	IT50	A2
I393	D1	IU19	F2
I394	B3	IU19	F2
I395	B4	IU54	F3
I396	D1	IU54	F3
IH00	D3		
IH00	D3		
IH04	D3		
IH06	D3		
IH06	D3		
IH07	D3		
IH08	D3		
IH08	D3		
IH10	D3		
IH10	D3		
IH20	D2		
IH20	D2		
IJ00	B3		
IJ00	B3		
IJ01	B3		
IJ02	B3		
IJ02	B3		
IJ03	B3		
IJ04	B2		
IJ04	B3		
IJ05	B2		
IJ06	B3		
IJ07	B3		
IJ15	C1		
IJ15	C1		
IJ16	C1		
IJ16	C1		
IJ18	D1		
IJ20	C1		
IJ20	C1		
IJ69	C1		
IJ69	D1		
IJ81	D1		
IL03	C3		
IL03	C3		
IL04	B2		
IL04	B2		
IL05	C2		
IL05	C2		
ILB6	C3		
ILB6	C3		
ILB7	B3		
ILB7	B3		
ILB8	B3		
ILB8	B3		
ILB9	B4		
ILB9	B4		
ILD2	B3		
ILD2	B3		
ILD3	B4		
ILD4	B3		
ILD4	B3		
ILD5	B3		
ILN1	B2		
ILN1	B2		
ILN3	C3		
ILN3	C3		
ILN4	B3		
ILN4	B3		
ILN5	C3		
ILN5	C3		
ILN6	B2		
IM05	D1		
IM06	D1		
IM08	D1		
IM09	C4		
IM09	C4		
IP16	B3		
IP16	B3		
IQ03	D1		
IQ04	D1		
IQ04	D1		

Personal Notes:

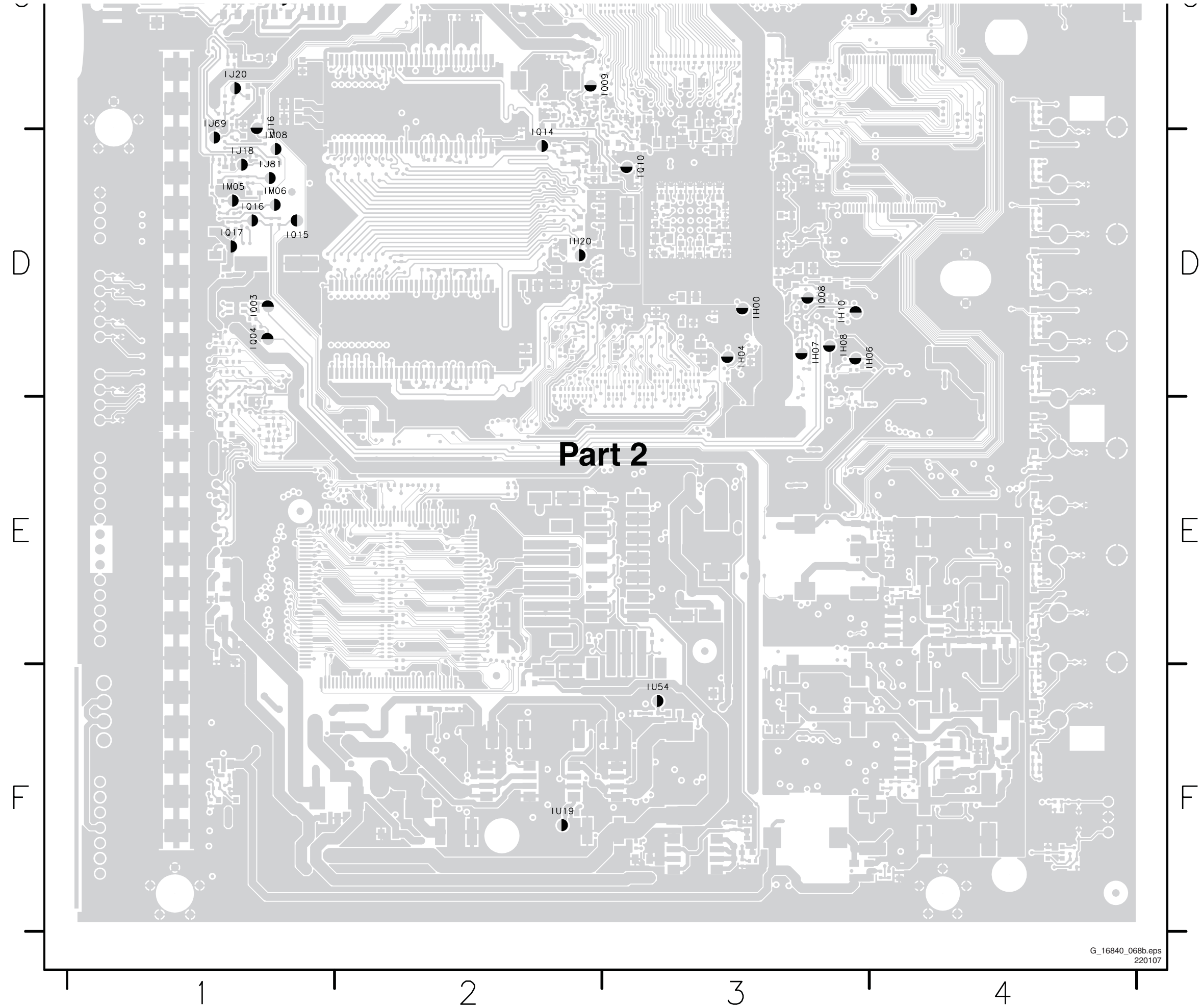
This image shows a full page of blank white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. In the bottom right corner, there is small black text that reads "E_06532_012.eps" and "131004".

E_06532_012.eps
131004

4



Test Point Overview SSB (Part 2 Top Side)



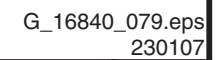
[illegible]

A2	E3	F87	E4	AH11	C3	F201	E3	F602	E3	FT12	A1	1157	A3	I266	F2	I385	A4	IC09	B1	I227	B3	IU22	F3
A3	A2	F89	A2	ALB0	C3	F203	E3	F603	E3	FT21	A3	1158	A2	I267	F1	I397	A4	IC10	C1	I230	B1	IU23	F2
A4	A3	F90	A3	AT13	A3	F204	E3	F605	E3	FT20	A3	1159	A3	I268	E1	I398	A4	IC11	C1	I231	E3	IU24	F3
A5	A3	F91	A2	AT14	A2	F205	E3	F608	E3	FT23	A3	1161	A2	I270	E1	I400	A4	IC13	B1	I233	E4	IU26	F3
A6	A2	F92	A3	AT20	A3	F206	E3	F607	E3	FT23	A2	1162	A3	I271	F2	I401	A4	IC10	E1	I234	D4	IU27	F3
A7	A3	F93	A3	AT23	A3	F207	E3	F608	E3	FT24	A3	1163	A3	I272	F2	IA01	A3	ID11	F1	I235	D4	IU28	F3
A8	A4	F94	A3	AT35	A2	F208	F2	F609	E3	F725	A3	1164	A2	I273	F1	IA02	A3	ID12	F1	I236	E4	IU29	F3
A9	A3	F95	A3	F100	A2	F209	F2	F611	E3	F726	A3	1165	A2	I274	F1	IA05	A4	ID13	E1	I237	E4	IU30	F3
F1	F2	F96	A2	F101	A1	F210	F2	F612	C2	F727	A3	1166	A2	I275	F2	IA08	A3	ID14	E1	I238	D4	IU31	F3
F2	F2	F97	A3	F102	A2	F211	F2	F100	D1	F728	A2	1167	A3	I276	F2	IA09	A3	ID15	F1	I239	E4	IU32	F3
F3	F4	F98	A3	F103	A1	F212	E1	F101	D1	F729	A3	1168	A3	I277	F2	IA10	A4	ID16	E1	I240	E4	IU33	F2
F4	F2	F99	A3	F104	D2	F213	C1	F103	D1	F730	A2	1169	A2	I278	F2	IA11	A4	ID17	F2	I241	E3	IU36	F3
F5	E2	110	E2	F105	D2	F214	B1	F104	C1	FU01	F3	1170	A2	I279	E2	IA12	A4	ID18	E2	I242	E4	IU37	F2
F6	E2	111	E2	F106	C3	F215	A1	F105	D1	FU02	F3	1171	A1	I280	E2	IA13	A4	ID20	F1	I270	C4	IU40	F3
F7	E2	112	E2	F107	C2	F216	B1	F10C	E1	FU03	F3	1172	A1	I281	E1	IA14	A4	ID21	F1	I271	B1	IU41	F3
F8	E2	113	E2	F108	C2	F217	B1	F10D	F1	FU04	E4	1173	A2	I282	F1	IA15	A4	ID22	F1	I272	E4	IU42	F3
F9	E2	114	F2	F109	C3	F218	A4	F10E	F1	FU05	E2	1174	A1	I283	F2	IA16	A4	ID23	E1	I273	E3	IU43	F2
11	D1	115	E1	F110	C2	F219	A4	F10G	E1	FU06	F3	1175	A1	I284	E1	IA17	A4	ID24	F2	I274	E4	IU44	F3
12	F3	116	F1	F111	D2	F220	A4	F10H	E1	FU07	F4	1176	E3	I285	E2	IA18	A4	ID25	E1	I275	E4	IU45	F3
13	F3	117	E2	F112	C3	F221	A4	F10I	E1	FU08	F4	1177	C2	I286	E2	IA19	A4	ID28	E1	I276	E4	IU46	F2
14	F3	118	E2	F113	D4	F222	A3	F110	F1	FU10	E4	1178	C2	I287	F2	IA20	A4	ID29	F1	I280	C4	IU47	F2
15	F3	119	F3	F114	C3	F223	A3	F111	F1	FU11	E4	1179	D3	I288	E2	IA21	A4	ID30	F2	I282	E4	IU55	F3
16	E2	120	E2	F115	D4	F224	A3	F112	D1	FU12	F2	1180	D3	I289	E2	IA22	A4	C31	F2	IK01	B4	IU56	F2
17	E3	121	E2	F116	D4	F225	A3	FJ01	E4	FU13	F3	1181	C2	I290	E2	IA23	A4	ID32	E1	ILB2	C3	IU57	F2
18	E2	122	F1	F117	D4	F226	A3	FJ02	E4	FU14	E4	1182	C2	I291	F2	IA24	A4	ID33	F1	ILB3	C2	IU58	F2
19	E2	123	F1	F118	E1	F227	A3	FJ03	D4	FU15	E4	1183	D3	I292	F1	IA25	A3	ID34	E1	ILB5	C2	IU59	F2
A10	A3	A24	E2	F119	C1	F228	A3	FJ04	D4	FU16	F4	1184	C2	I294	E2	IA26	A4	ID35	E1	ILC3	B2	IU60	F3
A11	A2	125	F3	F120	C1	F229	A3	FJ05	D4	FU17	E4	1185	C3	I295	E2	IA27	A4	ID36	E1	ILC4	B2	IU61	F2
A12	C3	126	F3	F121	B2	F230	A3	FJ06	D4	FU18	F2	1186	D1	I296	F1	IA28	A4	ID37	F1	ILC5	C1	IU62	F2
A13	D3	127	F3	F122	E1	F231	A4	FJ07	D4	FU19	F2	1187	C2	I297	E1	IA29	A4	ID38	F1	ILC6	C2	IU63	F2
A14	D2	128	E2	F123	E1	F232	A4	FJ08	C4	FU20	E4	1188	F4	I298	E1	IA30	A4	ID39	E1	ILC7	C1	IU64	E2
F11	C3	129	E2	F124	C1	F233	A4	FJ10	C4	FU21	E4	1189	F4	I299	F1	IA31	A4	ID40	E1	ILB1	B1	IU65	F3
F12	E2	130	F2	F125	B1	F234	A4	FJ12	C4	FU22	E4	1190	F4	I300	F1	IA32	A3	ID41	F2	ILN2	B2	IU66	F3
F12	E2	131	F2	F126	B1	F235	A4	FJ13	C4	FU23	F2	1191	F4	I301	E1	IA33	A3	ID42	E1	IM01	F4	IU68	F3
F14	F3	132	F1	F127	B1	F236	A4	FJ22	C4	FU31	E2	1192	F2	I302	F1	IA34	A3	ID43	F1	IM10	F4	IU70	E2
F14	F2	133	F2	F128	B4	FA01	A3	FJ23	C4	FU31	E2	1193	F4	I308	F1	IA35	A3	ID44	E1	IM11	F2	IU72	E2
F15	F4	134	F2	F129	B1	FA03	A4	FJ24	C4	FU32	E3	1194	F4	I309	F1	IA36	A4	ID45	F1	IM13	F4	IU73	E2
F16	E2	135	F2	F130	B1	FA10	A3	FJ25	C4	FU33	F2	1195	B2	I310	E1	IA37	A3	ID46	E1	IM14	F4	IU74	E2
F17	E2	136	F2	F131	C1	FA11	A4	FJ26	C4	FU40	E3	1196	B1	I311	F1	IA38	A3	ID47	F1	IM15	F4	IU75	E2
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F21	E4	140	E1	F135	B2	FA15	A4	FJ30	C4	FU44	E2	1200	B2	I315	E1	IA42	A3	ID52	F2	IQ07	C3	IU81	F3
F22	F2	141	F2	F136	F4	FA16	A4	FJ31	C4	FU45	E2	1201	B2	I316	E1	IA43	A3	ID53	E2	IQ11	C2	IU84	E2
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F36	E2	155	F3	F150	B2	FA35	A3	FLA5	B2	1106	A2	1215	D4	I334	B1	IA68	A4	ID72	F2	IT12	A2	IU99	E2
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F42	A4	161	F3	F156	B4	FA41	A3	FLC2	C1	1112	A1	1221	E4	I340	B3	IA74	A3	ID80	F1	IT18	A3		
F43	A1	162	F2	F157	B4	FA42	A3	FM10	F4	1113	A1	1222	E4	I341	B3	IA75	A3	ID81	F1	IT19	A3		
F44	A4	163	F3	F158	C2	FA43	A4	FM11	F4	1114	A1	1223	E4	I342	A3	IA76	A3	ID82	E1	IT21	A3		
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F46	A4	165	F2	F160	C4	FA45	A4	FM13	F4	1116	A1	1225	B2	I344	A3	IA78	A3	ID86	E1	IT24	A3		
F47	A4	166	F3	F161	C4	FA46	A4	FM14	F4	1117	A1	1226	C3	I345	B3	IA79	A3	ID87	E1	IT25	A2		
F48	A4	167	F3	F162	C4	FA16	A2	FM15	F4	1118	A2	1227	B1	I346	A4	IA80	B3	ID91	F2	IT26	A2		
F49	A4	168	F3	F163	C4	F817	A2	FM16	F4	1119	A1	1228	B3	I347	A4	IA81	A4	ID92	E2	IT27	A2		
F50	A4	169	F3	F164	C4	F818	A2	FM17	F4	1120	E1	1229	B4	I348	A3	IA82	A4	ID93	E1	IT30	B4		
F51	A4	170	F3	F165	C4	F819	A2	FM18	F4	1121	C1	1230	B3	I349	A4	IA83	A4	IG09	E3	IT32	A3		

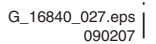
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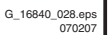
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F106	A1	F206	A1	F221	A1	F233	A1	F411	A2	F505	A3	I109	A2	I121	A2	I306	A2
F107	A2	F207	A1	F222	A1	F301	A1	F412	A2	F506	A3	I110	A2	I122	A2	I307	A2
F108	A2	F208	A2	F223	A1	F302	A1	F413	A1	F507	A3	I111	A2	I123	A2	I308	A1
F109	A2	F209	A2	F224	A1	F401	A3	F414	A3	F508	A3	I112	A2	I127	A2		
F110	A2	F210	A1	F225	A1	F402	A2	F415	A3	I101	A2	I113	A2	I128	A2		
F111	A2	F211	A2	F226	A1	F403	A2	F416	A3	I102	A2	I114	A2	I129	A2		
F113	A2	F212	A2	F227	A1	F404	A2	F433	A1	I103	A2	I115	A2	I132	A2		
F201	A2	F213	A2	F228	A1	F405	A2	F434	A1	I104	A2	I116	A2	I301	A1		
F202	A1	F216	A1	F229	A1	F407	A3	F435	A1	I105	A2	I117	A2	I302	A1		



I²C

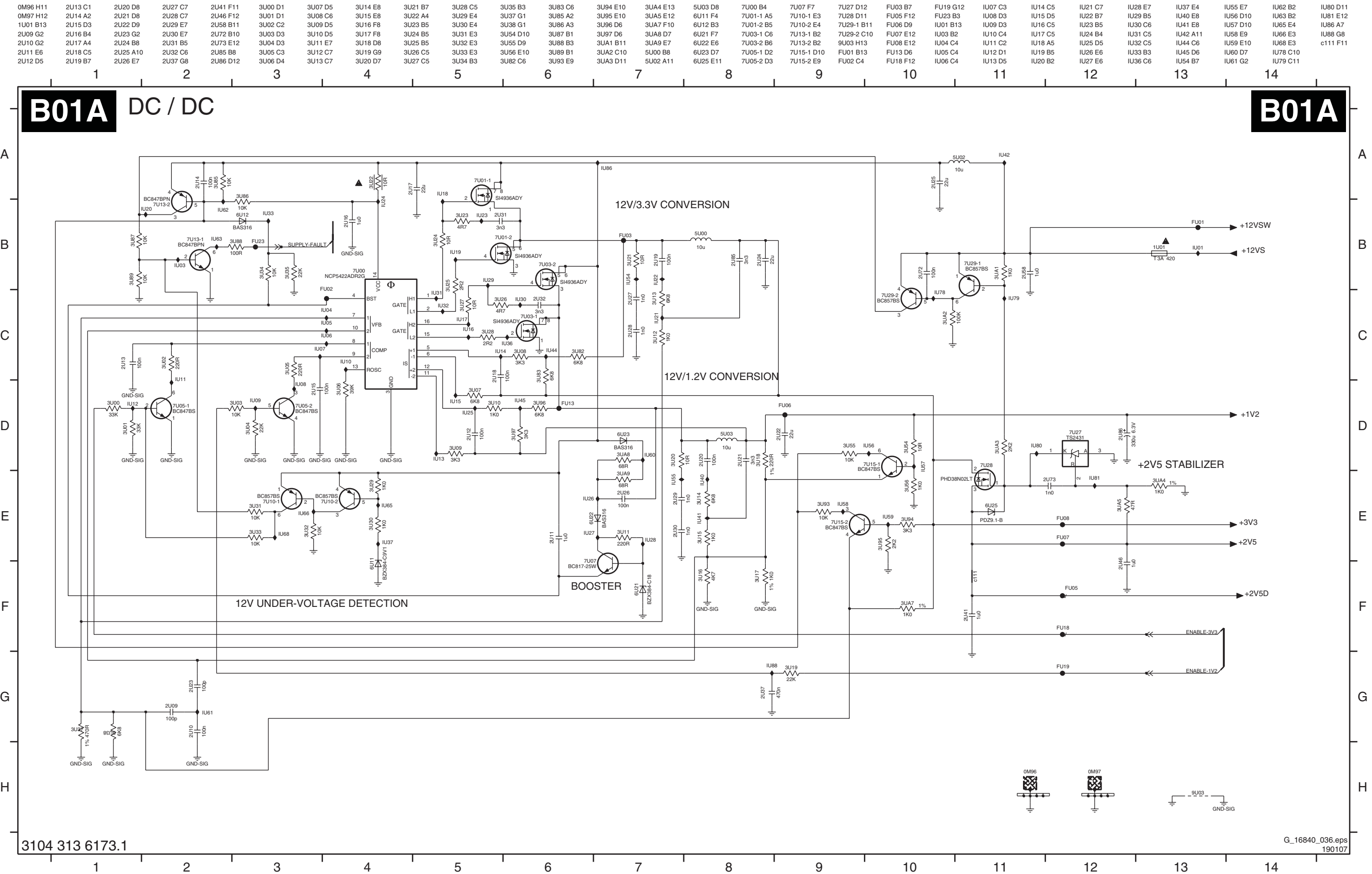


SUPPLY LINES OVERVIEW

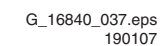


7. Circuit Diagrams and PWB Layouts

SSB: DC/DC



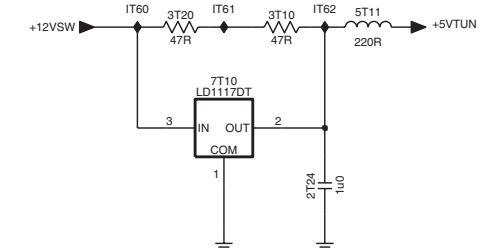
B01B SUPPLY + RS232



B02A CHANNEL DECODER

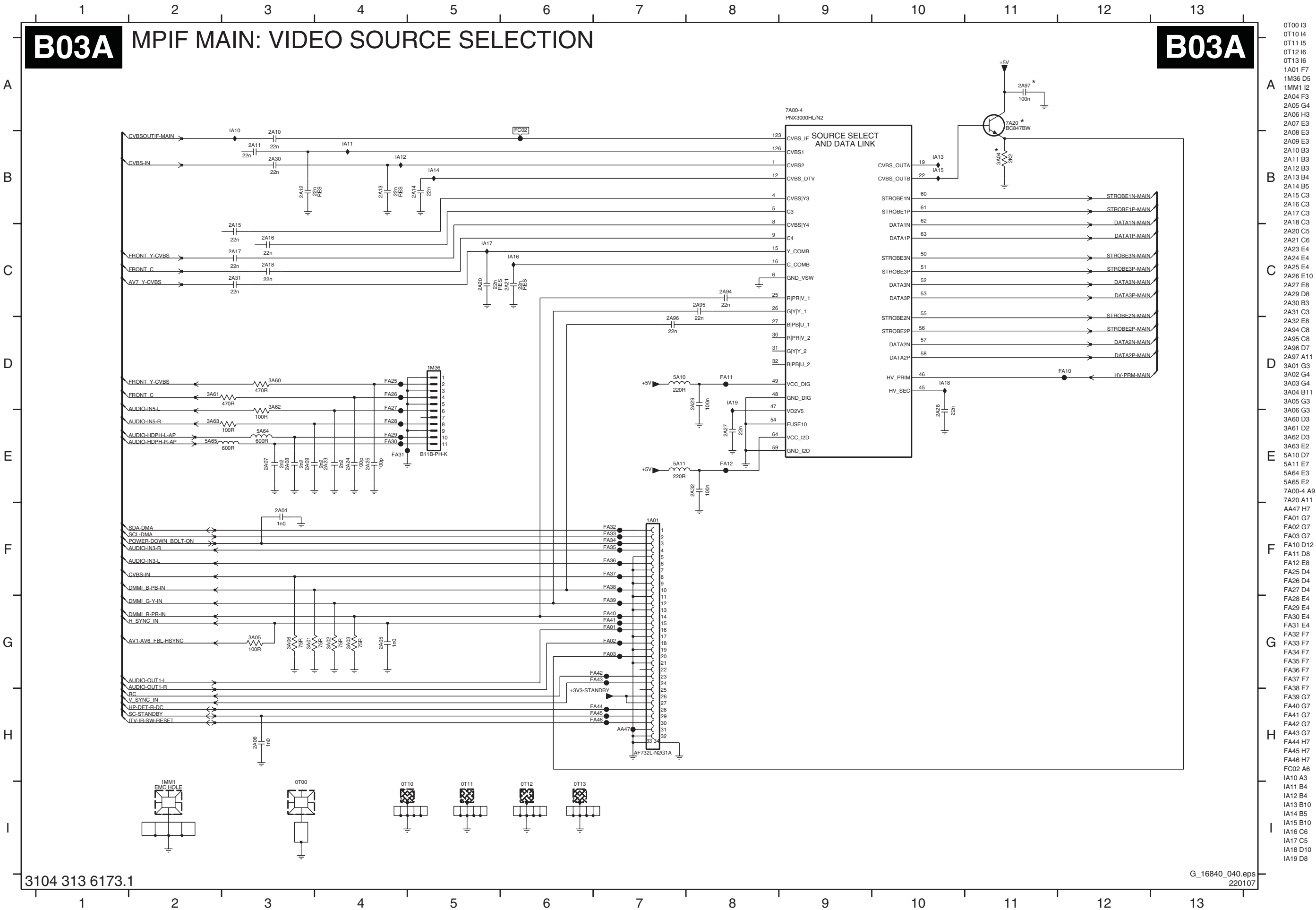


B02B MAIN TUNER



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220107

SSB: MPIF Main: Video Source Selection



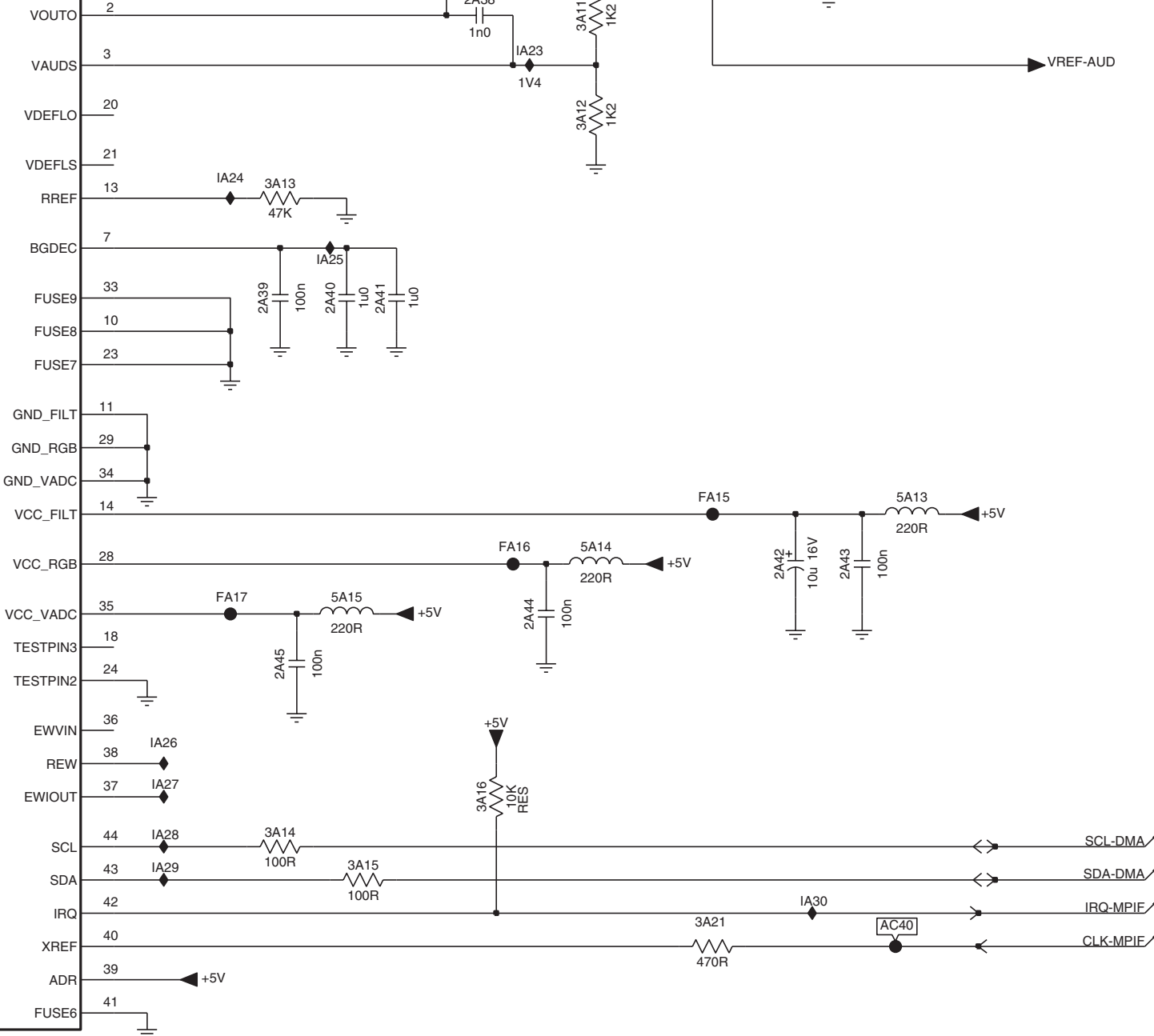
SSB: MPIF Main: Supply

B03B MPIF MAIN: SUPPLY

B03B

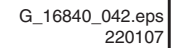
7A00-3
PNX3000HL/N2

MPIF-SUPPLY
E/W & CONTROL

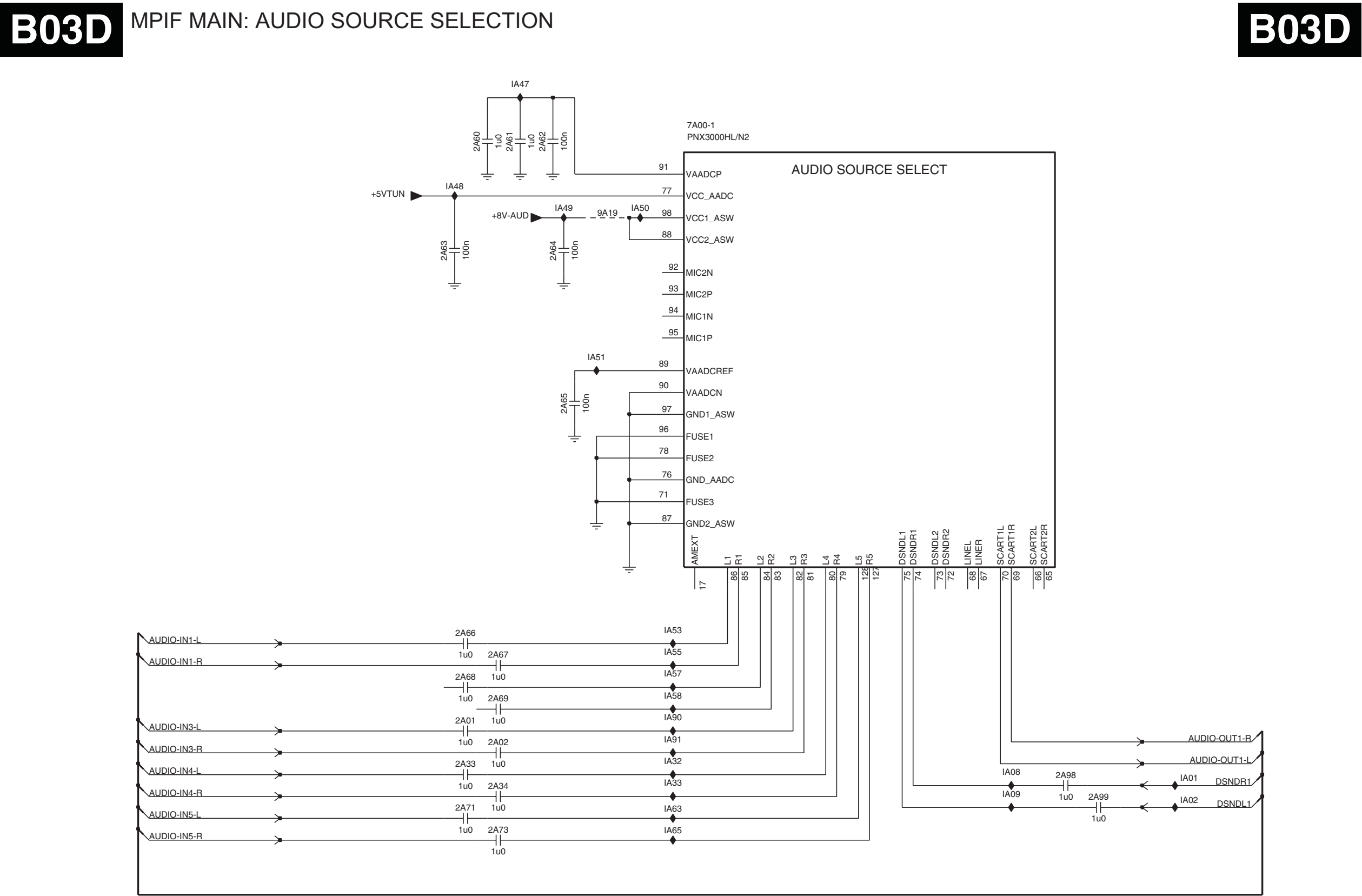


- 2A35 A6
- 2A37 B6
- 2A38 B5
- 2A39 C4
- 2A40 C4
- 2A41 C4
- 2A42 D6
- 2A43 D6
- 2A44 E5
- 2A45 E4
- 3A10 B5
- 3A11 B5
- 3A12 B5
- 3A13 C4
- 3A14 F4
- 3A15 F4
- 3A16 E5
- 3A21 F6
- 5A12 A6
- 5A13 D6
- 5A14 D5
- 5A15 E4
- 7A00-3 B2
- 7A10 A5
- 9A10 A6
- AC40 F6
- FA13 A6
- FA14 A7
- FA15 D6
- FA16 D5
- FA17 E4
- IA20 A5
- IA21 A6
- IA22 B5
- IA23 B5
- IA24 C4
- IA25 C4
- IA26 E3
- IA27 E3
- IA28 F3
- IA29 F3
- IA30 F6

B03C MPIF MAIN: IF + SAW FILTER



SSB: MPIF Main: Audio Source Selection



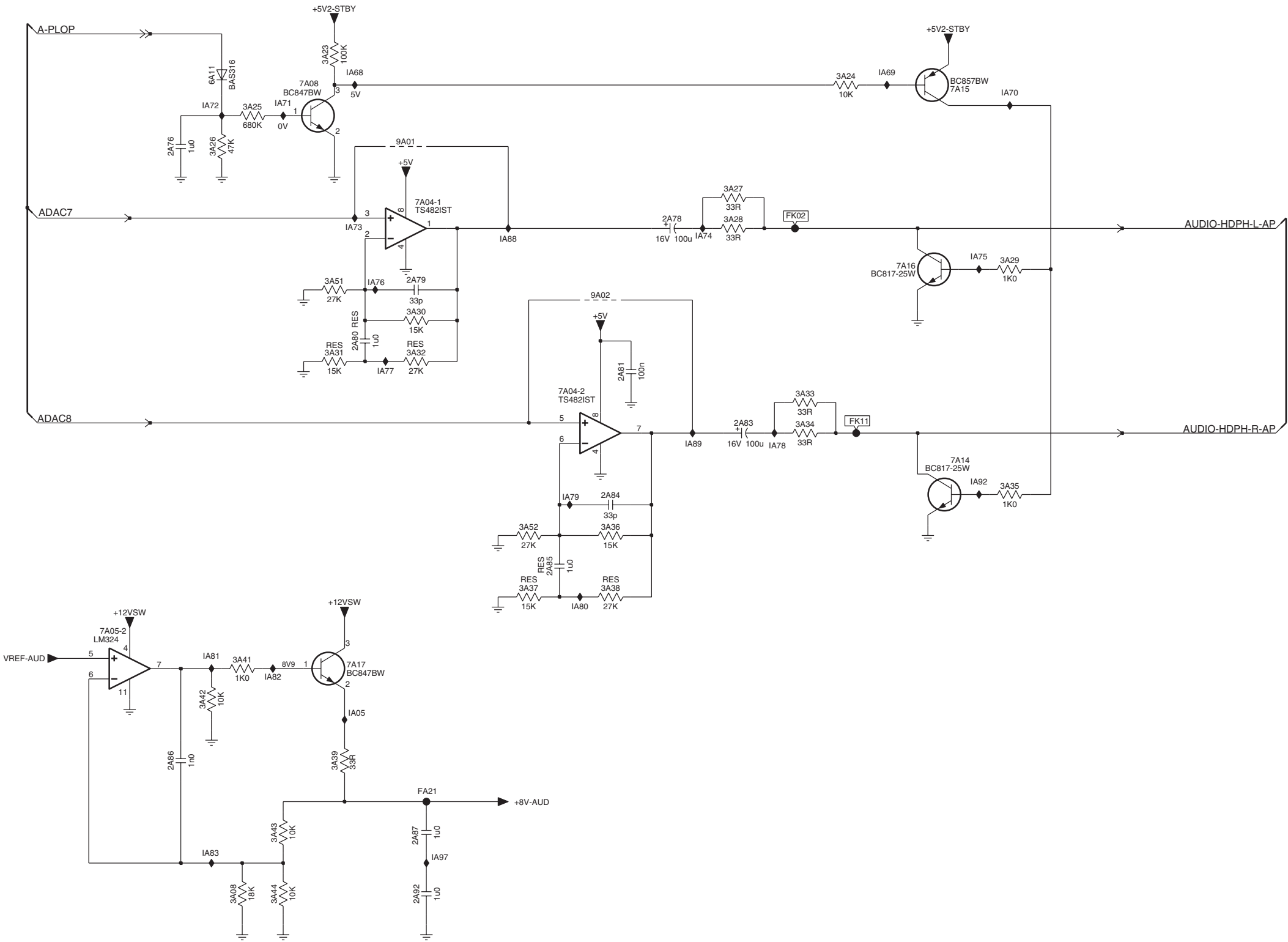
- 2A01 E3
- 2A02 E3
- 2A33 E3
- 2A34 F3
- 2A60 A3
- 2A61 A3
- 2A62 A4
- 2A63 B3
- 2A64 B4
- 2A65 C4
- 2A66 E3
- 2A67 E3
- 2A68 E3
- 2A69 E3
- 2A71 F3
- 2A73 F3
- 2A98 F7
- 2A99 F7
- 7A00-1 A5
- 9A19 B4
- IA01 F8
- IA02 F8
- IA08 E7
- IA09 F7
- IA32 E4
- IA33 F4
- IA47 A3
- IA48 B3
- IA49 B4
- IA50 B4
- IA51 C4
- IA53 E4
- IA55 E4
- IA57 E4
- IA58 E4
- IA63 F4
- IA65 F4
- IA90 E4
- IA91 E4

SSB: MPIF Main: Audio Amplifier

B03E

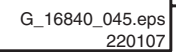
MPIF MAIN: AUDIO AMPLIFIER

B03E



- 2A76 B2
- 2A78 B6
- 2A79 C4
- 2A80 C4
- 2A81 C6
- 2A83 D6
- 2A84 D6
- 2A85 E5
- 2A86 F2
- 2A87 G4
- 2A92 G4
- 3A08 G3
- 3A23 A4
- 3A24 A7
- 3A25 B3
- 3A26 B3
- 3A27 B6
- 3A28 B6
- 3A29 C8
- 3A30 C4
- 3A31 C4
- 3A32 C4
- 3A33 D7
- 3A34 D7
- 3A35 D8
- 3A36 E6
- 3A37 E5
- 3A38 E6
- 3A39 F4
- 3A41 E3
- 3A42 F3
- 3A43 G3
- 3A44 G3
- 3A51 C4
- 3A52 E5
- 6A11 A3
- 7A04-1 B4
- 7A04-2 D5
- 7A05-2 E2
- 7A08 A3
- 7A14 D8
- 7A15 A8
- 7A16 C8
- 7A17 F4
- 9A01 B4
- 9A02 C5
- FA21 F4
- FK02 B7
- FK11 D7
- IA05 F4
- IA68 A4
- IA69 A7
- IA70 A8
- IA71 B3
- IA72 B3
- IA73 B4
- IA74 B6
- IA75 C8
- IA76 C4
- IA77 C4
- IA78 D7
- IA79 D5
- IA80 E5
- IA81 E3
- IA82 F3
- IA83 G3
- IA88 C5
- IA89 D6
- IA92 D8
- IA97 G4

PNX2015: AUDIO / VIDEO



SSB: PNX2015: DV I/O Interface

B04B

PNX 2015: DV I/O INTERFACE

B04B

3LR0 D4
3LR1 C4
3LR9-1 D4
3LR9-2 E4
3LR9-3 D4
3LR9-4 D4
3LS0-2 D4
3LS0-3 D4
3LS0-4 E4
3LS1-1 D4
3LS1-2 D4
3LS1-3 E4
3LS1-4 E4
7J00-2 B7
7J00-4 B2
AJ10 D8

A

A

B

B

C

C

D

D

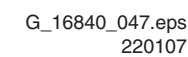
E

E

3104 313 6173.1

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220107

B04C



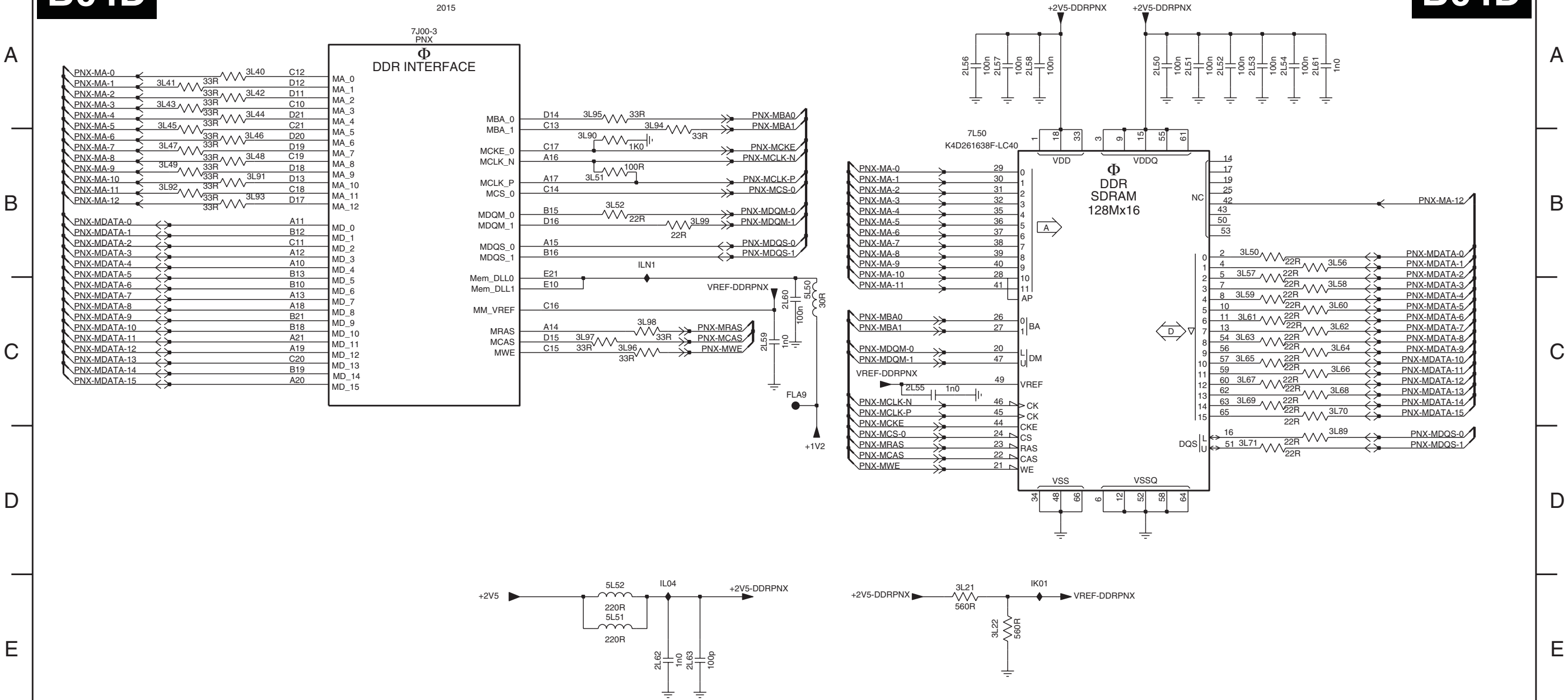
SSB: PNX2015: DDR Interface

2L50 A8	2L54 A9	2L58 A7	2L62 E5	3L40 A2	3L44 A2	3L48 B2	3L52 B4	3L59 C9	3L63 C9	3L67 C9	3L71 D9	3L92 B1	3L96 C4	5L50 C6	7L50 B7	ILN1 B5
2L51 A8	2L55 C6	2L59 C5	2L63 E5	3L41 A1	3L45 A1	3L49 B1	3L56 B9	3L60 C9	3L64 C9	3L68 C9	3L89 D9	3L93 B2	3L97 C4	5L51 E4	FLA9 C6	
2L52 A8	2L56 A7	2L60 C6	3L21 E7	3L42 A2	3L46 B2	3L50 B9	3L57 B9	3L61 C9	3L65 C9	3L69 C9	3L90 B4	3L94 A5	3L98 C5	5L52 E4	IK01 E7	
2L53 A9	2L57 A7	2L61 A9	3L22 E7	3L43 A1	3L47 B1	3L51 B4	3L58 C9	3L62 C9	3L66 C9	3L70 C9	3L91 B2	3L95 A4	3L99 B5	7J00-3 A3	IL04 E5	

B04D

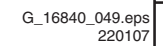
PNX 2015: DDR INTERFACE

B04D

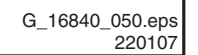


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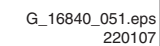
B04E



B04F PNX 2015: SUPPLY

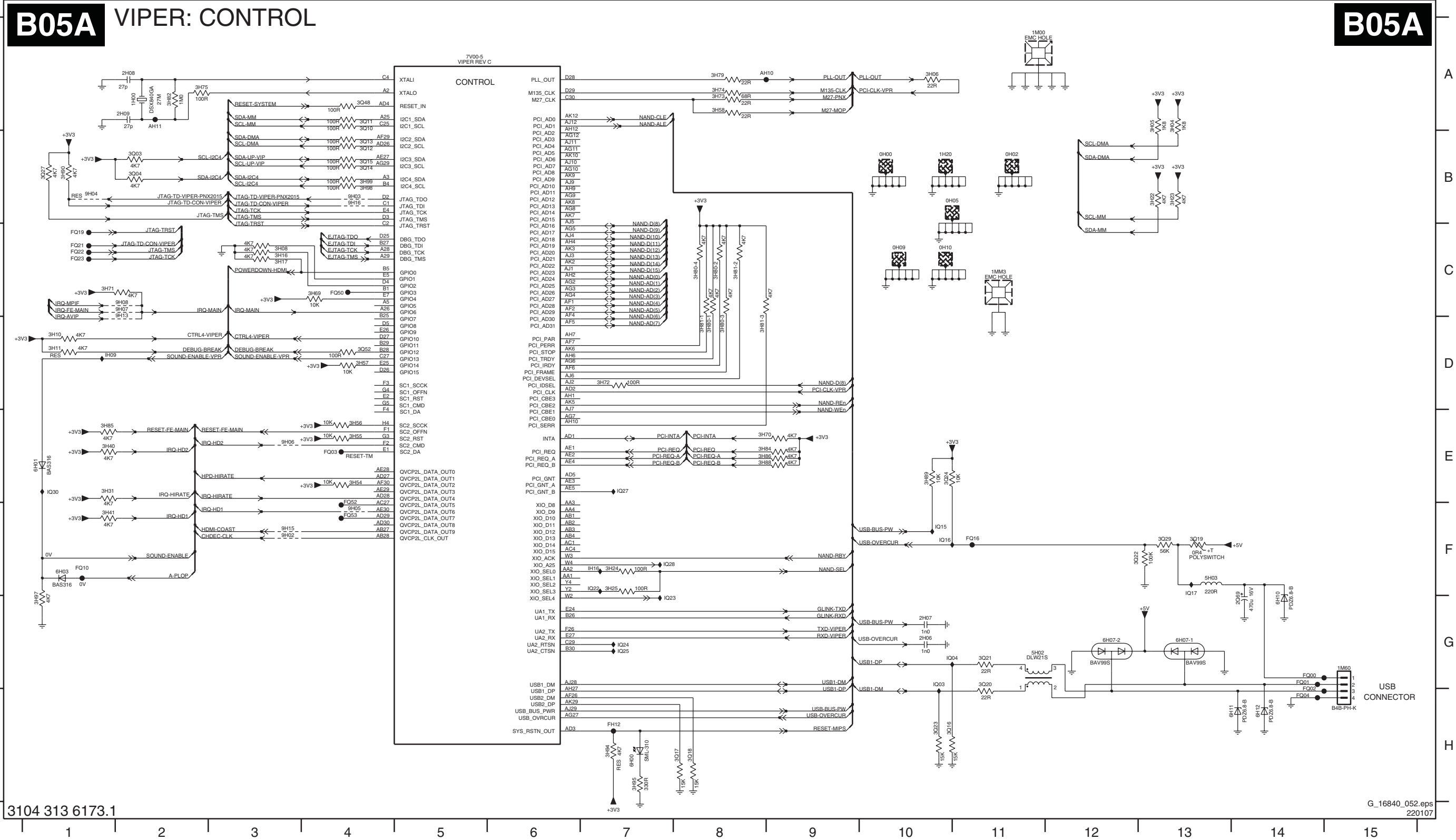


B04G VIPER/PNX 2015: DISPLAY INTERFACE



SSB: VIPER: Control

0H00 B10	1H00 A2	2H06 G10	3H04 A13	3H11 D1	3H24 F7	3H54 E4	3H69 C4	3H74 A8	3H80-3 D8	3H82 A2	3H89 E10	3H98 B4	3Q11 A4	3Q16 H10	3Q21 G11	3Q29 F13	6H00 H7	6H10 G14	9H03 B4	9H08 C2	AH11 A2	FQ03 E4	FQ21 C1	FQ53 F4	IQ15 F10	IQ24 G7
0H02 B11	1H20 B10	2H07 G10	3H05 A13	3H16 C3	3H25 F7	3H55 E4	3H70 E8	3H75 A2	3H80-4 C8	3H84 E8	3H90 B1	3H99 B4	3Q12 B4	3Q17 H8	3Q22 F13	3Q48 A4	6H01 E1	6H11 H14	9H04 B1	9H13 C2	FH12 H7	FQ04 H14	FQ22 C1	IH09 D1	IQ16 F10	IQ25 G7
0H05 B10	1M00 A11	2H08 A2	3H06 A10	3H17 C3	3H23 E1	3H56 E4	3H71 C1	3H79 A8	3H81-1 D8	3H85 E1	3H94 H7	3Q03 B2	3Q13 B4	3Q18 H8	3Q23 H10	3Q52 D4	6H03 F1	6H12 H14	9H05 F4	9H15 F3	FQ00 G14	FQ10 F1	FQ23 C1	IH16 F7	IQ17 F13	IQ27 E7
0H09 C10	1M00 G15	2H09 A2	3H08 C3	3H22 B13	3H40 E1	3H57 D4	3H72 D7	3H80-1 D8	3H81-2 C8	3H86 E8	3H95 H7	3Q04 B2	3Q14 B4	3Q19 F13	3Q24 E10	5H02 G11	6H07-1 G13	7V00-5 A5	9H06 E3	9H16 B4	FQ01 G14	FQ16 F11	FQ50 C4	IQ03 G10	IQ22 F7	IQ28 F7
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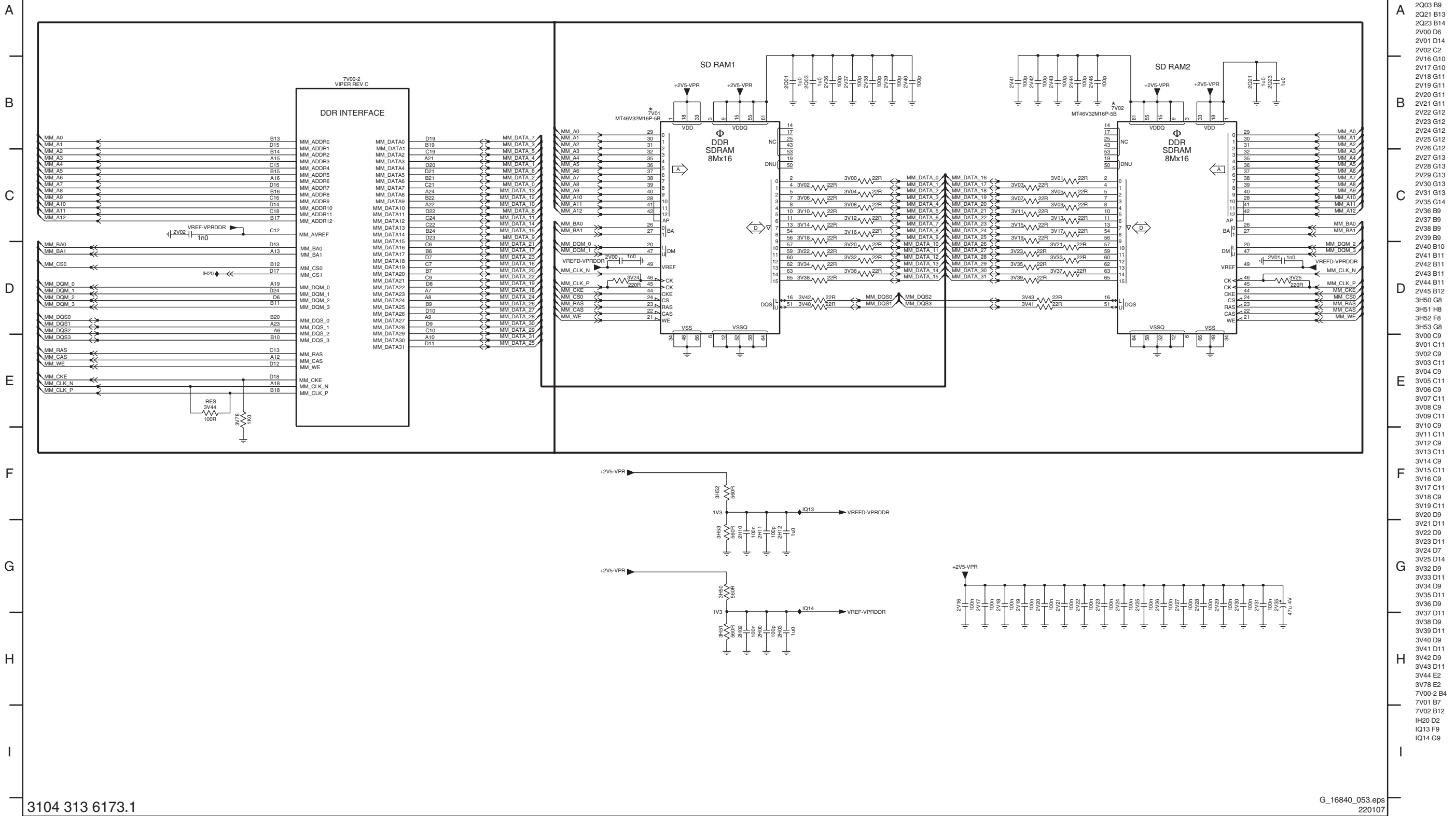
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SSB: VIPER: Main Memory

B05B

VIPER: MAIN MEMORY

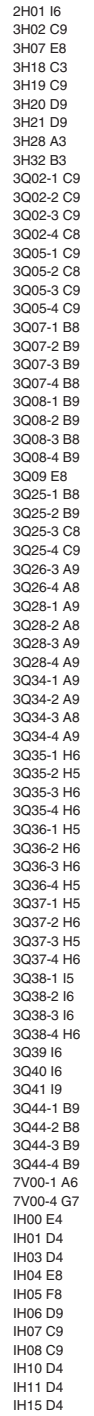
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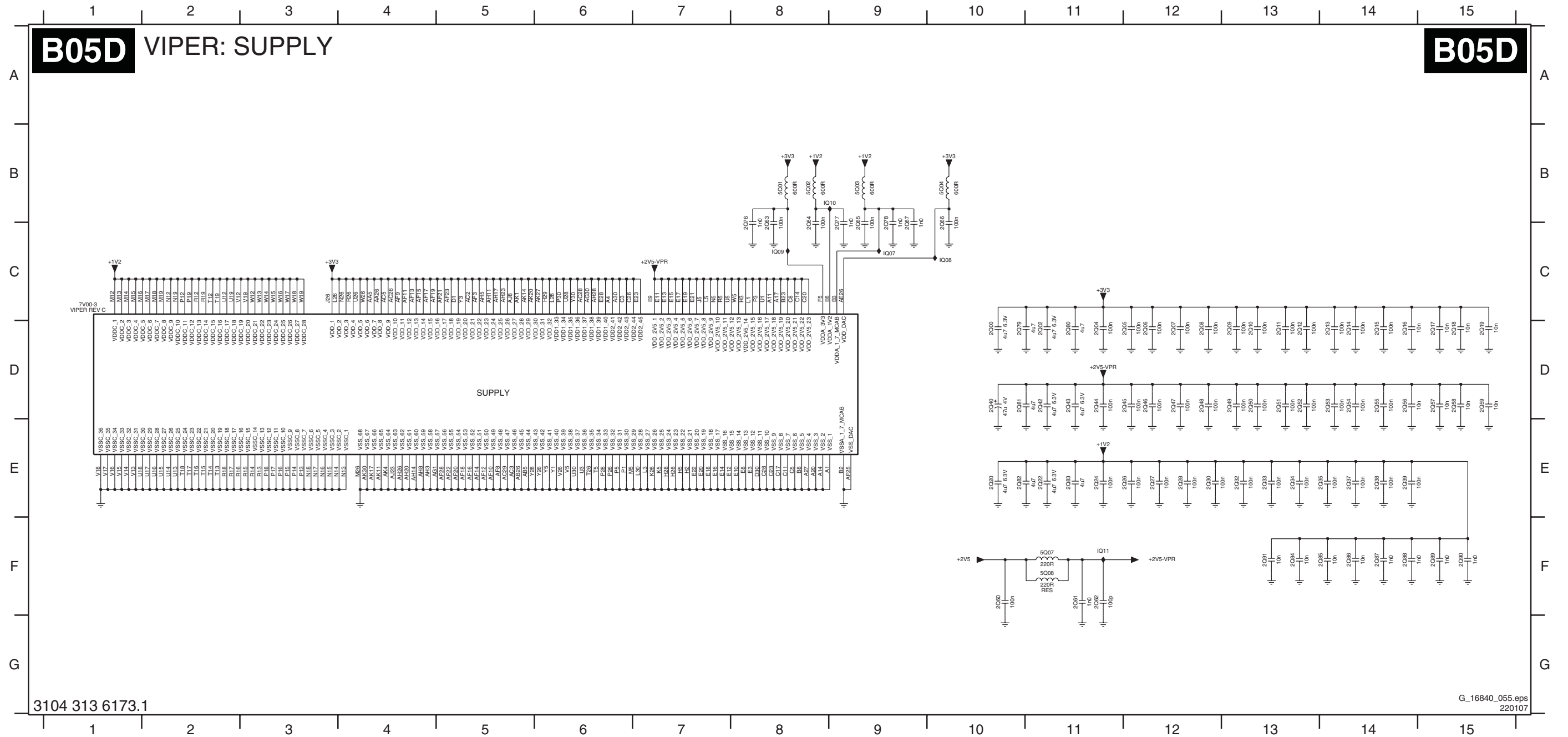
- 2H00 H8
- 2H02 H8
- 2H03 H8
- 2H10 G8
- 2H12 G8
- 2Q01 B8
- 2Q03 B9
- 2Q21 B13
- 2Q23 B14
- 2V00 D6
- 2V01 D14
- 2V02 C2
- 2V16 G10
- 2V17 G10
- 2V18 G11
- 2V19 G11
- 2V20 G11
- 2V21 G11
- 2V22 G12
- 2V23 G12
- 2V24 G12
- 2V25 G12
- 2V26 G12
- 2V27 G13
- 2V28 G13
- 2V29 G13
- 2V30 G13
- 2V31 G13
- 2V35 G14
- 2V36 B9
- 2V37 B9
- 2V38 B9
- 2V39 B9
- 2V40 B10
- 2V41 B11
- 2V42 B11
- 2V43 B11
- 2V44 B11
- 2V45 B12
- 3H50 G8
- 3H51 H8
- 3H52 F8
- 3H53 G8
- 3V00 C9
- 3V01 C11
- 3V02 C9
- 3V03 C11
- 3V04 C9
- 3V05 C11
- 3V06 C9
- 3V07 C11
- 3V08 C9
- 3V09 C11
- 3V10 C9
- 3V11 C11
- 3V12 C9
- 3V13 C11
- 3V14 C9
- 3V15 C11
- 3V16 C9
- 3V17 C11
- 3V18 C9
- 3V19 C11
- 3V20 D9
- 3V21 D11
- 3V22 D9
- 3V23 D11
- 3V24 D7
- 3V25 D14
- 3V32 D9
- 3V33 D11
- 3V34 D9
- 3V35 D11
- 3V36 D9
- 3V37 D11
- 3V38 D9
- 3V39 D11
- 3V40 D9
- 3V41 D11
- 3V42 D9
- 3V43 D11
- 3V44 E2
- 3V78 E2
- 7V00-2 B4
- 7V01 B7
- 7V02 B12
- IH20 D2
- IQ13 F9
- IQ14 G9

VIPER: A/V + TUNNELBUS

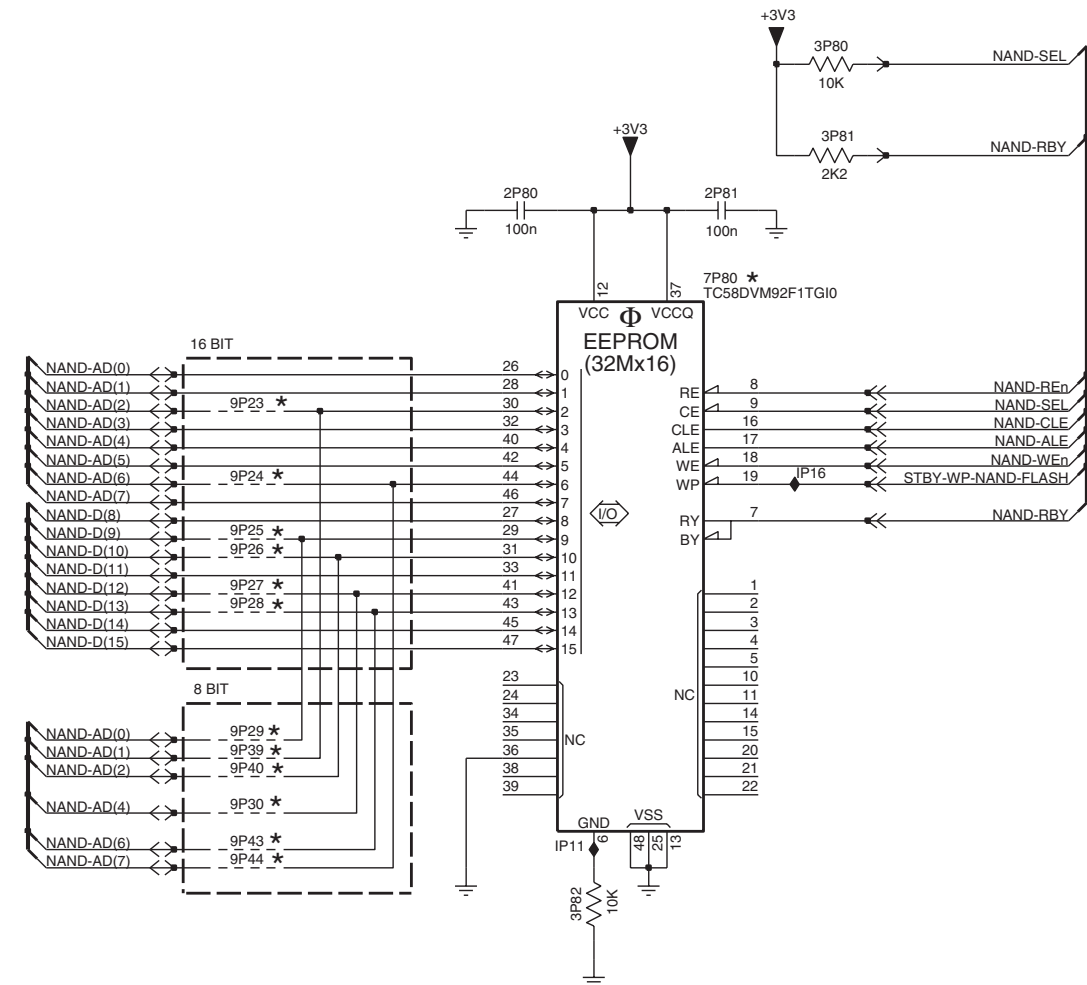
B05C



2000 D10	2005 D12	2008 D12	2011 D13	2014 D14	2017 D15	2020 E10	2026 E12	2030 E12	2034 E13	2038 E14	2042 D11	2045 D12	2048 D12	2051 D13	2054 D14	2057 D15	2060 F10	2063 C8	2066 C10	2077 C9	2080 D11	2083 E11	2086 F14	2089 F15	5001 B8	5004 B10	7000-3 C1	I009 C8
2002 D11	2006 D12	2009 D13	2012 D13	2015 D14	2018 D15	2022 E11	2027 E12	2032 E13	2035 E14	2039 E14	2043 D11	2046 D12	2049 D13	2052 D13	2055 D14	2058 D15	2061 F11	2064 C8	2067 C9	2078 C9	2081 D10	2084 F13	2087 F14	2090 F15	5002 B8	5007 F11	I007 C9	I010 B9
2004 D11	2007 D12	2010 D13	2013 D14	2016 D14	2019 D15	2024 E11	2028 E12	2033 E13	2037 E14	2040 D10	2044 D11	2047 D12	2050 D13	2053 D14	2056 D14	2059 D15	2062 F11	2065 C9	2076 C8	2079 D10	2082 E10	2085 F14	2088 F14	2091 F13	5003 B8	5008 F11	I008 C10	I011 F11



B05E VIPER: EEPROM



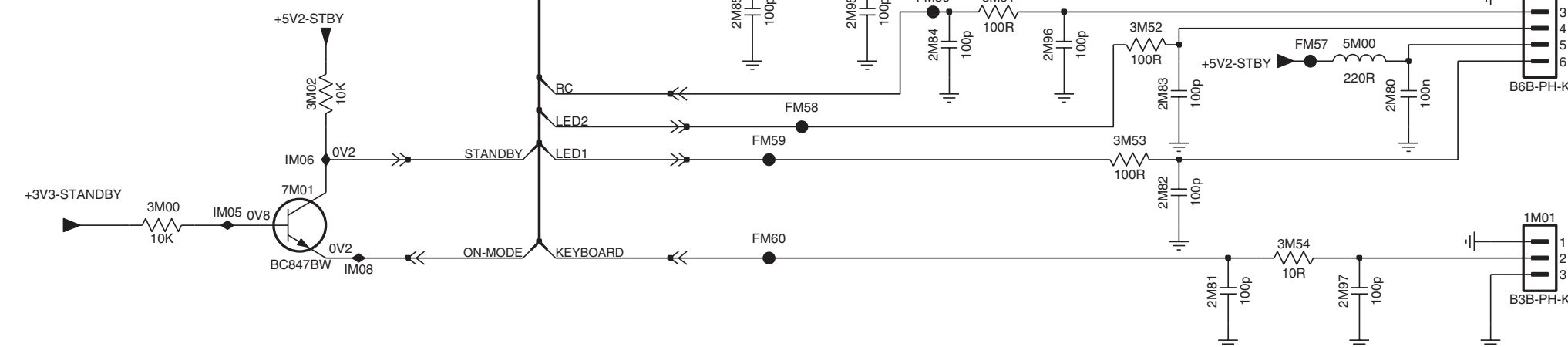
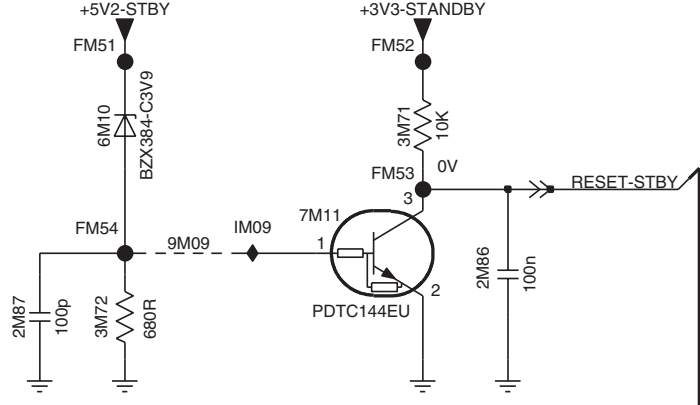
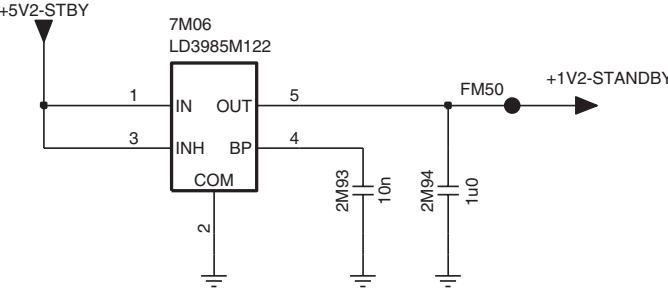
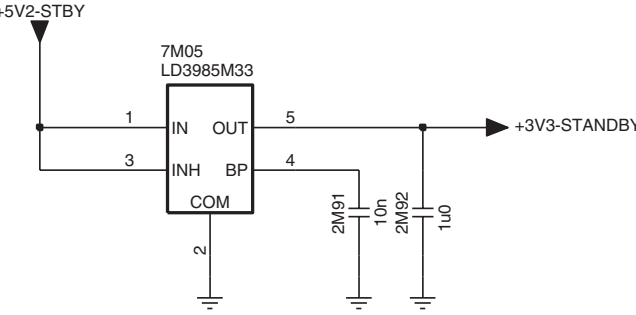
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220107

2P34 B4
2P35 C4
2P80 C8
2P81 C8
3P37 A4
3P57 F3
3P80 B9
3P81 C9
3P82 F8
3P83 D2
3P84 D2
3P85 D2
3P86 E2
3P88 E2
7P14 B3
7P15-1 D3
7P15-2 D3
7P15-3 E3
7P15-4 E3
7P16 F2
7P17 F3
7P18 A3
7P80 C8
9P16 B4
9P17 C4
9P23 D7
9P24 D7
9P25 D7
9P26 D7
9P27 D7
9P28 D7
9P29 E7
9P30 E7
9P39 E7
9P40 E7
9P42 A4
9P43 E7
9P44 E7
FP22 B4
FP23 D2
FP32 E2
FP33 F2
FP34 B4
FP35 B4
FP36 A3
IP10 A4
IP11 E8
IP16 D9

SSB: VIPER: Miscellaneous

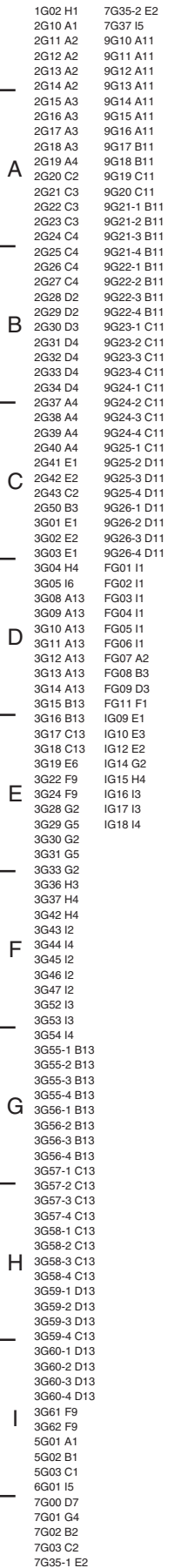
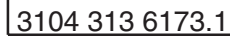
B05F MISCELLANEOUS

B05F



- 1M01 E8
- 1M21 D8
- 2M80 D7
- 2M81 E6
- 2M82 E6
- 2M83 D6
- 2M84 D5
- 2M85 D4
- 2M86 C3
- 2M87 D1
- 2M91 B2
- 2M92 B2
- 2M93 B5
- 2M94 B5
- 2M95 D5
- 2M96 D5
- 2M97 E7
- 3M00 E2
- 3M02 D2
- 3M50 D4
- 3M51 D5
- 3M52 D6
- 3M53 E6
- 3M54 E7
- 3M71 C2
- 3M72 D1
- 5M00 D7
- 6M10 C1
- 7M01 E2
- 7M05 A1
- 7M06 A4
- 7M11 C2
- 9M09 C2
- FM50 A5
- FM51 C1
- FM52 C2
- FM53 C2
- FM54 C1
- FM55 D4
- FM56 D5
- FM57 D7
- FM58 E4
- FM59 E4
- FM60 E4
- IM05 E2
- IM06 E2
- IM08 E2
- IM09 C2

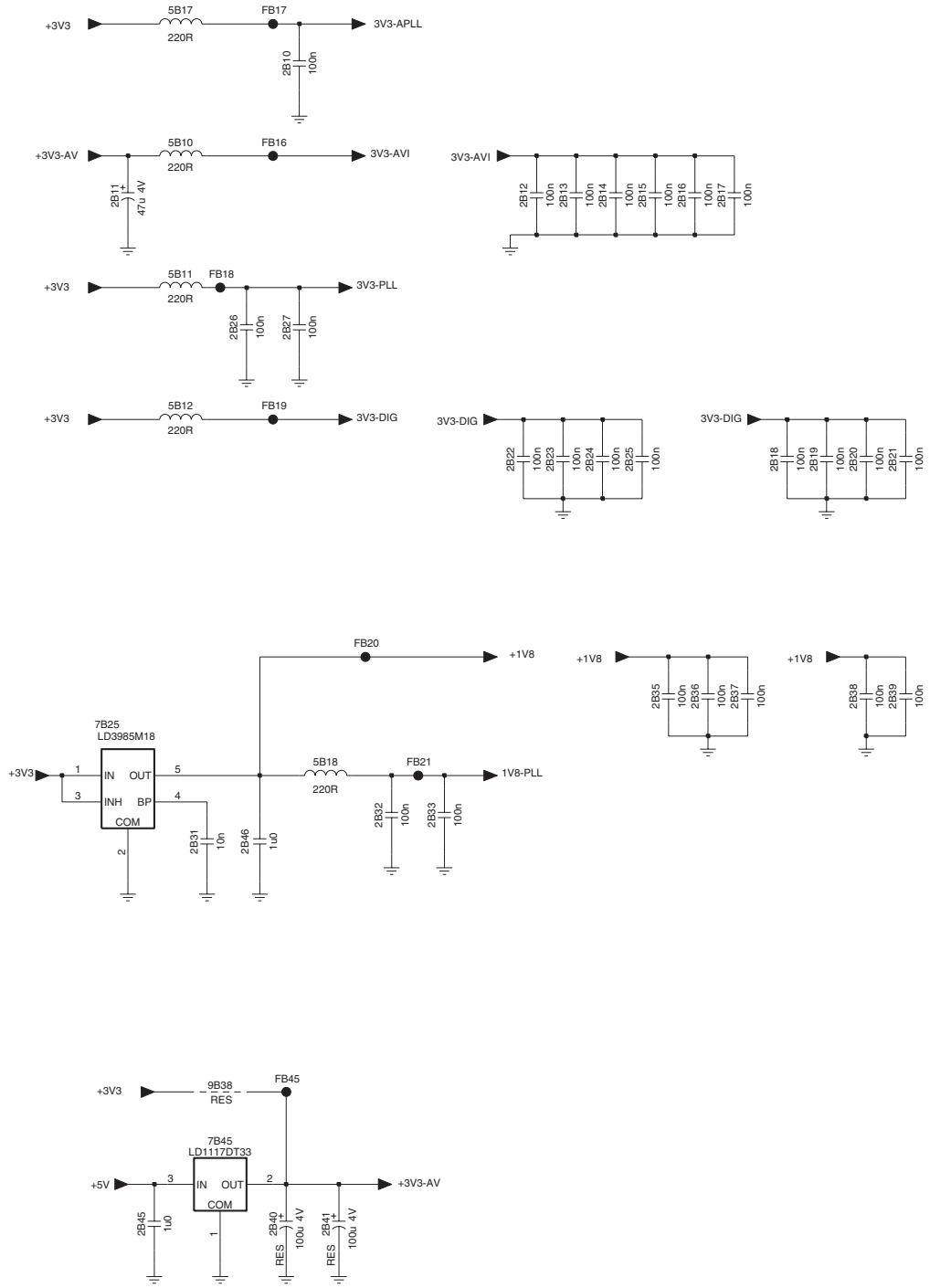
DISPLAY INTERFACE: MOP



SSB: HDMI & Supply

B07A HDMI + SUPPLY

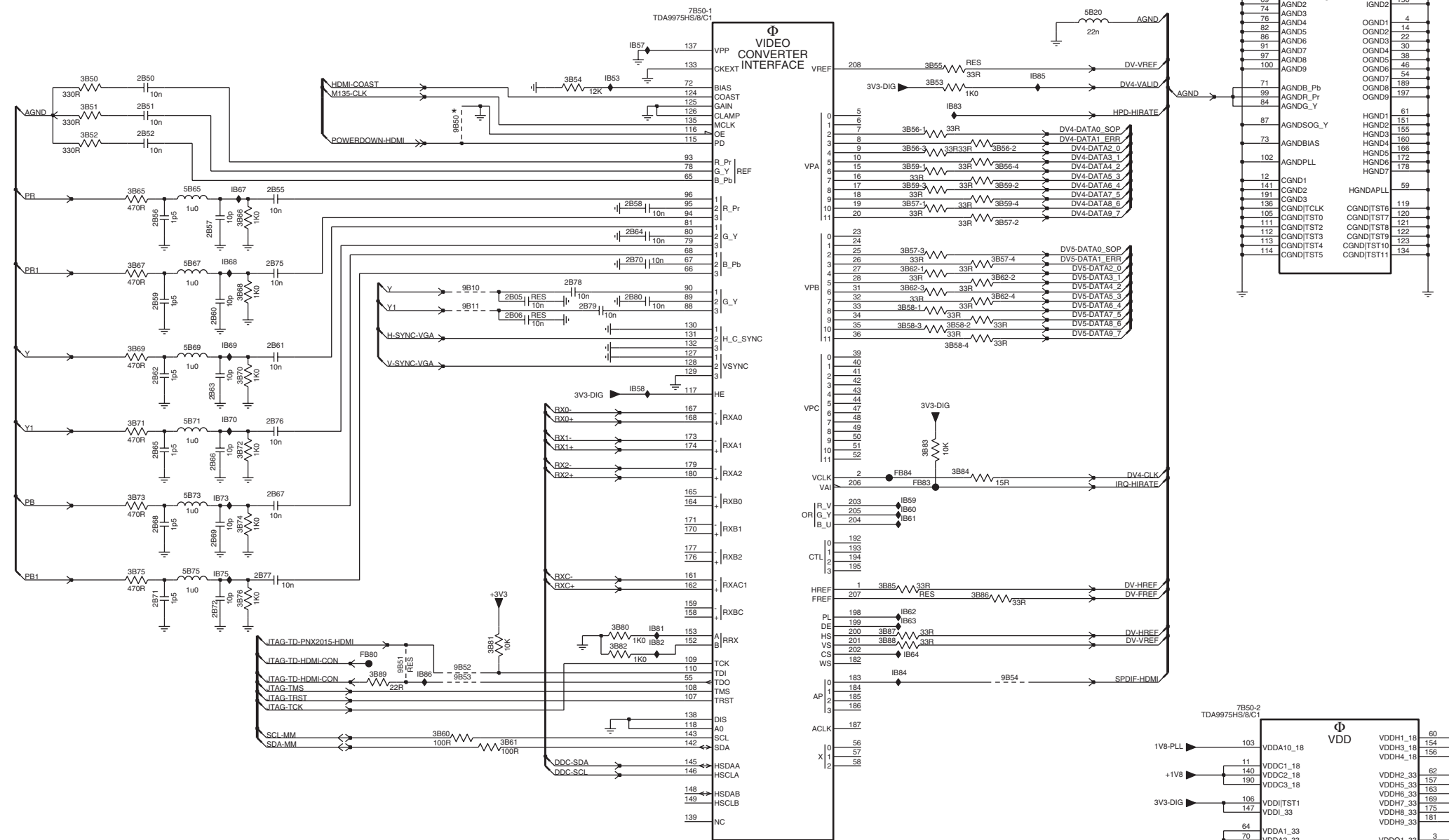
B07A



HDMI: I/O + CONTROL

B07B

A vertical scale with nine horizontal tick marks. To the right of each tick mark is a capital letter: A, B, C, D, E, F, G, H, and I, ordered from top to bottom.

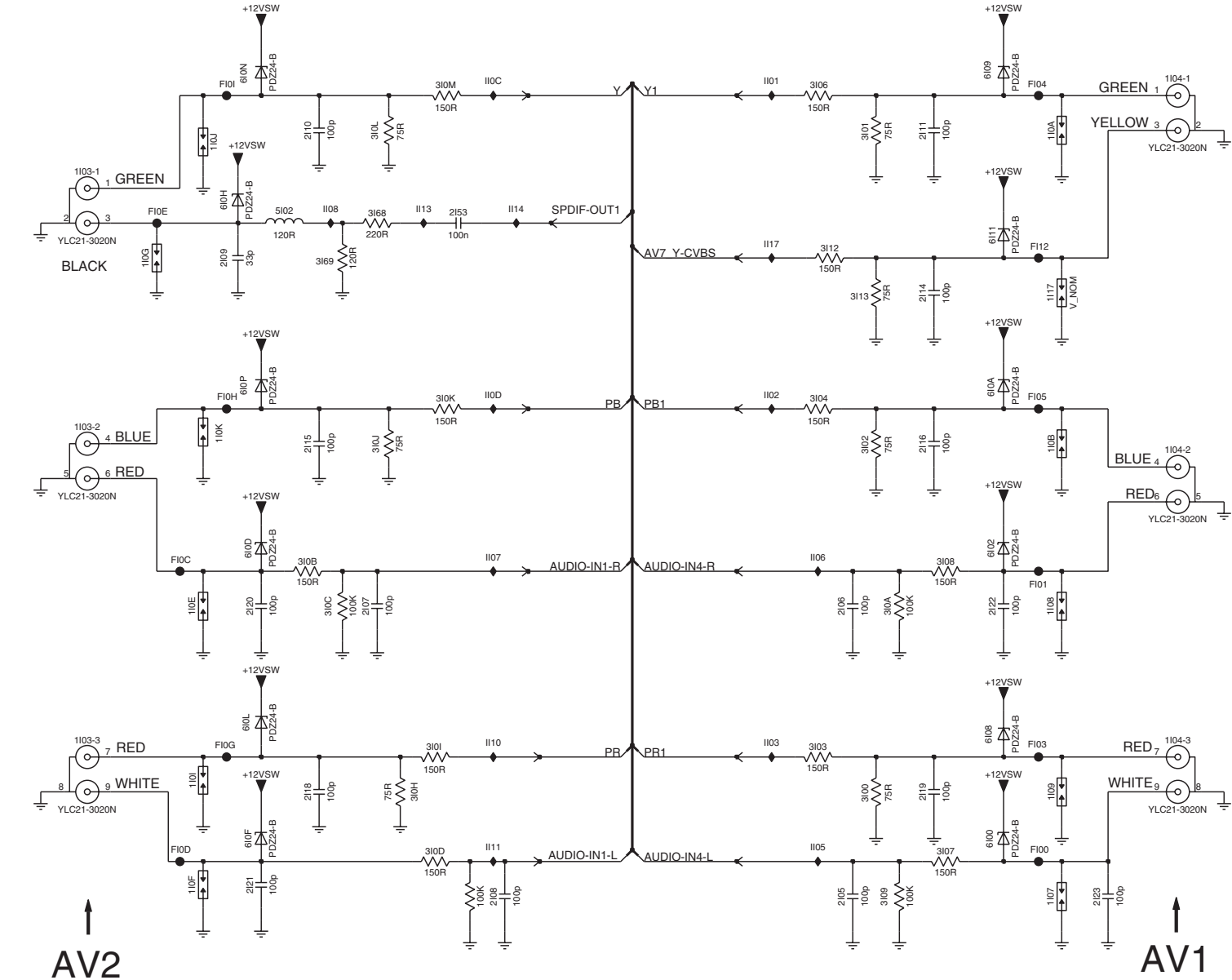


2805 D5	IB58 E6
2806 D5	IB59 F9
2850 C2	IB60 F8
2851 C2	IB61 F8
2852 C2	IB62 G8
2855 C3	IB63 G8
2856 D2	IB64 G8
2857 D3	IB67 C3
2858 D6	IB68 D3
2859 D2	IB69 E3
2860 D3	IB70 E3
2861 E3	IB73 F3
2862 E2	IB75 F3
2863 E3	IB81 G6
2864 E3	IB82 G6
2865 E2	IB83 C8
2866 F3	IB84 G8
2867 F3	IB85 C9
2868 F2	IB86 G4
2869 F3	
2870 D6	
2871 G2	
2872 G3	
2873 D3	
2876 E3	
2877 F3	
2878 D5	
2879 D6	
2880 D6	
3850 C2	
3851 C2	
3852 C2	
3853 C8	
3854 C5	
3855 C8	
3856-1 C8	
3856-2 C9	
3856-3 C8	
3856-4 C9	
3857-1 D8	
3857-2 D9	
3857-3 D8	
3857-4 D9	
3858-1 D8	
3858-2 E8	
3858-3 C8	
3858-4 E8	
3859-1 C8	
3859-2 C9	
3859-3 C8	
3859-4 D9	
3860 H4	
3861 H5	
3862-1 D8	
3862-2 D9	
3862-3 D8	
3862-4 D9	
3865 C2	
3866 D3	
3867 D2	
3868 D3	
3869 E2	
3870 E3	
3871 E2	
3872 E3	
3873 F2	
3874 F3	
3875 F2	
3876 G3	
3880 G6	
3881 G5	
3882 G6	
3883 E8	
3884 F8	
3885 G8	
3886 G9	
3887 G8	
3888 G8	
3889 G4	
5820 B9	
5865 C2	
5867 D2	
5869 E2	
5871 E2	
5873 F2	
5875 F2	
7850-1 B6	
7850-2 G11	
7850-3 B11	
9810 D5	
9811 D5	
9850 C4	
9851 G4	
9852 G5	
9853 G5	
9854 G9	
F880 G4	
F883 F8	
F884 F8	
IB53 C6	
IB57 B6	

SSB: Analog I/O

B07C ANALOG I/O

B07C



3104 313 6173.1

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220107

- 1103-1 C1
- 1103-2 D1
- 1103-3 F1
- 1104-1 B8
- 1104-2 E8
- 1104-3 F8
- 1107 G7
- 1108 F7
- 1109 G7
- 110A C7
- 110B E7
- 110E F1
- 110F G1
- 110G C1
- 110I G1
- 110J C2
- 110K E2
- 1117 D7
- 2105 G5
- 2106 F5
- 2107 F3
- 2108 G3
- 2109 C2
- 2110 C2
- 2111 C6
- 2114 D6
- 2115 E2
- 2116 E6
- 2118 G2
- 2119 G6
- 2120 F2
- 2121 G2
- 2122 F6
- 2123 G7
- 2153 C3
- 3100 G6
- 3101 C6
- 3102 E6
- 3103 F5
- 3104 D5
- 3106 B5
- 3107 G6
- 3108 E6
- 3109 G6
- 310A F6
- 310B E2
- 310C F2
- 310D G3
- 310E G3
- 310H G3
- 310I F3
- 310J E3
- 310K D3
- 310L C3
- 310M B3
- 3112 C5
- 3113 D6
- 3168 C3
- 3169 C2
- 5102 C2
- 6100 G6
- 6102 E6
- 6108 F6
- 6109 B6
- 610A D6
- 610D E2
- 610F G2
- 610H C2
- 610L F2
- 610N B2
- 610P D2
- 6111 C6
- 6100 G7
- 6101 E7
- 6103 F7
- 6104 B7
- 6105 D7
- 610C E1
- 610D G1
- 610E C1
- 610G F2
- 610H D2
- 610I B2
- 6112 C7
- 1101 B5
- 1102 D5
- 1103 F5
- 1105 G5
- 1106 E5
- 1107 E3
- 1108 C2
- 110C B3
- 110D D3
- 1110 F3
- 1111 G3
- 1113 C3
- 1114 C3
- 1117 C5

UART



Personal Notes:

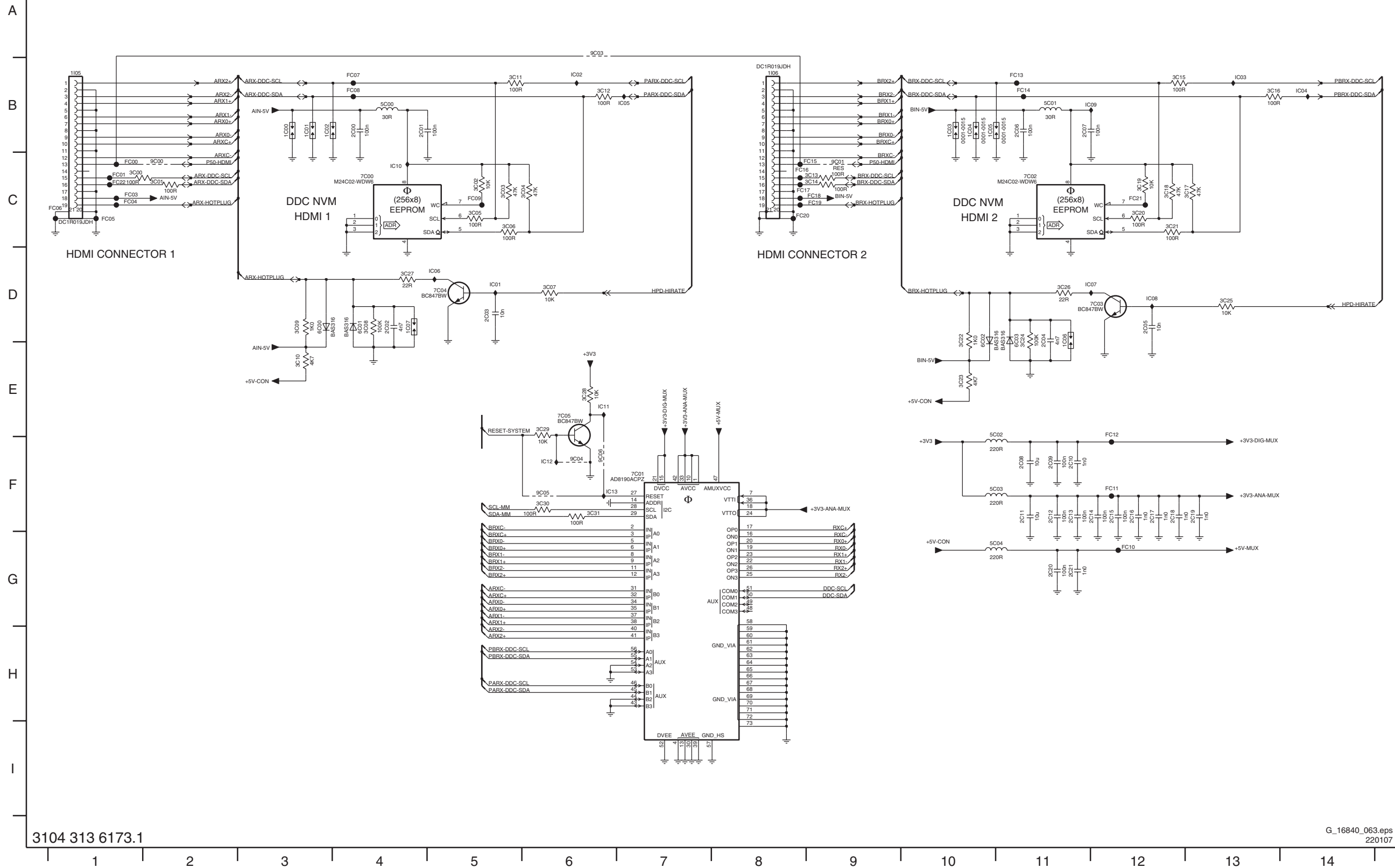
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HDMI

B07E

HDMI

B07E

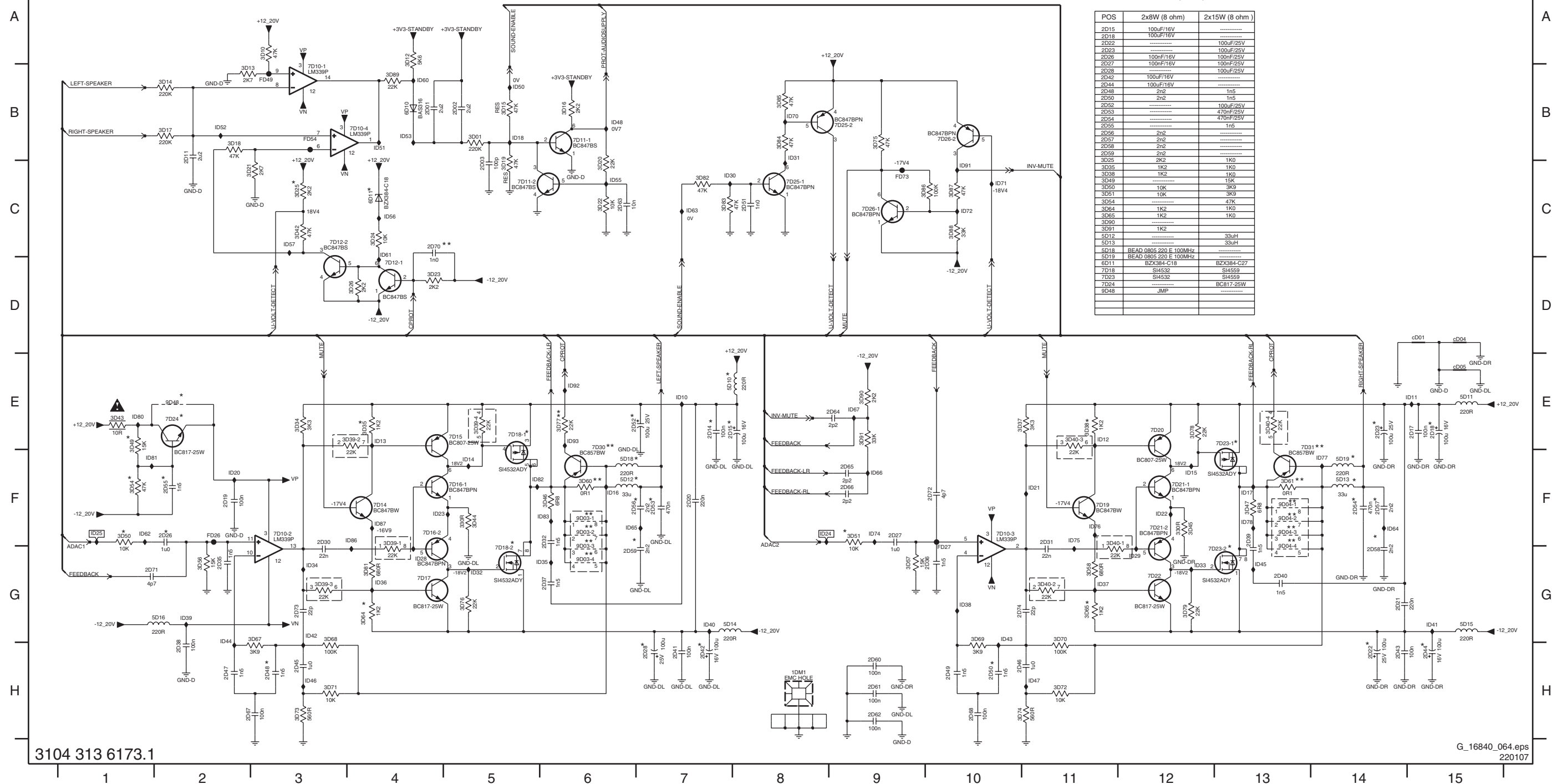


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220107

IC00 B3	IC09 B12
IC01 B3	IC10 C4
IC02 B3	IC11 E6
IC03 B10	IC12 F6
IC04 B10	
IC05 B10	
IC06 D11	
IC07 D4	
IC08 B1	
IC09 B8	
IC00 B4	
IC01 B4	
IC02 D4	
IC03 D5	
IC04 D11	
IC05 D12	
IC06 B11	
IC07 B11	
IC08 F11	
IC09 F11	
IC10 F11	
IC11 F11	
IC12 F11	
IC13 F12	
IC14 F12	
IC15 F12	
IC16 F12	
IC17 F12	
IC18 F12	
IC19 F13	
IC20 G11	
IC21 G11	
IC00 C1	
IC01 C2	
IC02 C5	
IC03 C5	
IC04 C6	
IC05 C5	
IC06 C5	
IC07 D6	
IC08 D4	
IC09 D3	
IC10 E3	
IC11 B5	
IC12 B6	
IC13 C9	
IC14 C9	
IC15 B12	
IC16 B13	
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IC18 C12	
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IC21 C12	
IC22 D10	
IC23 E10	
IC24 D11	
IC25 D13	
IC26 D11	
IC27 D4	
IC28 E6	
IC29 E6	
IC30 F6	
IC31 F6	
IC00 B4	
IC01 B11	
IC02 E11	
IC03 F11	
IC04 G11	
IC00 D3	
IC01 D4	
IC02 D10	
IC03 D11	
IC00 C4	
IC01 F7	
IC02 C11	
IC03 D12	
IC04 D5	
IC05 E6	
IC00 C2	
IC01 C9	
IC03 A6	
IC04 F6	
IC05 F6	
IC06 F6	
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IC03 C1	
IC04 C1	
IC05 C1	
IC06 C1	
IC07 B4	
IC08 B4	
IC09 C5	
IC10 G12	
IC11 F12	
IC12 E12	
IC13 B11	
IC14 B11	
IC15 C9	
IC16 C8	
IC17 C8	
IC18 C9	
IC19 C9	
IC20 C8	
IC21 C12	
IC22 C1	
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IC02 B6	
IC03 B13	
IC04 B14	
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IC06 D5	
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IC08 D12	

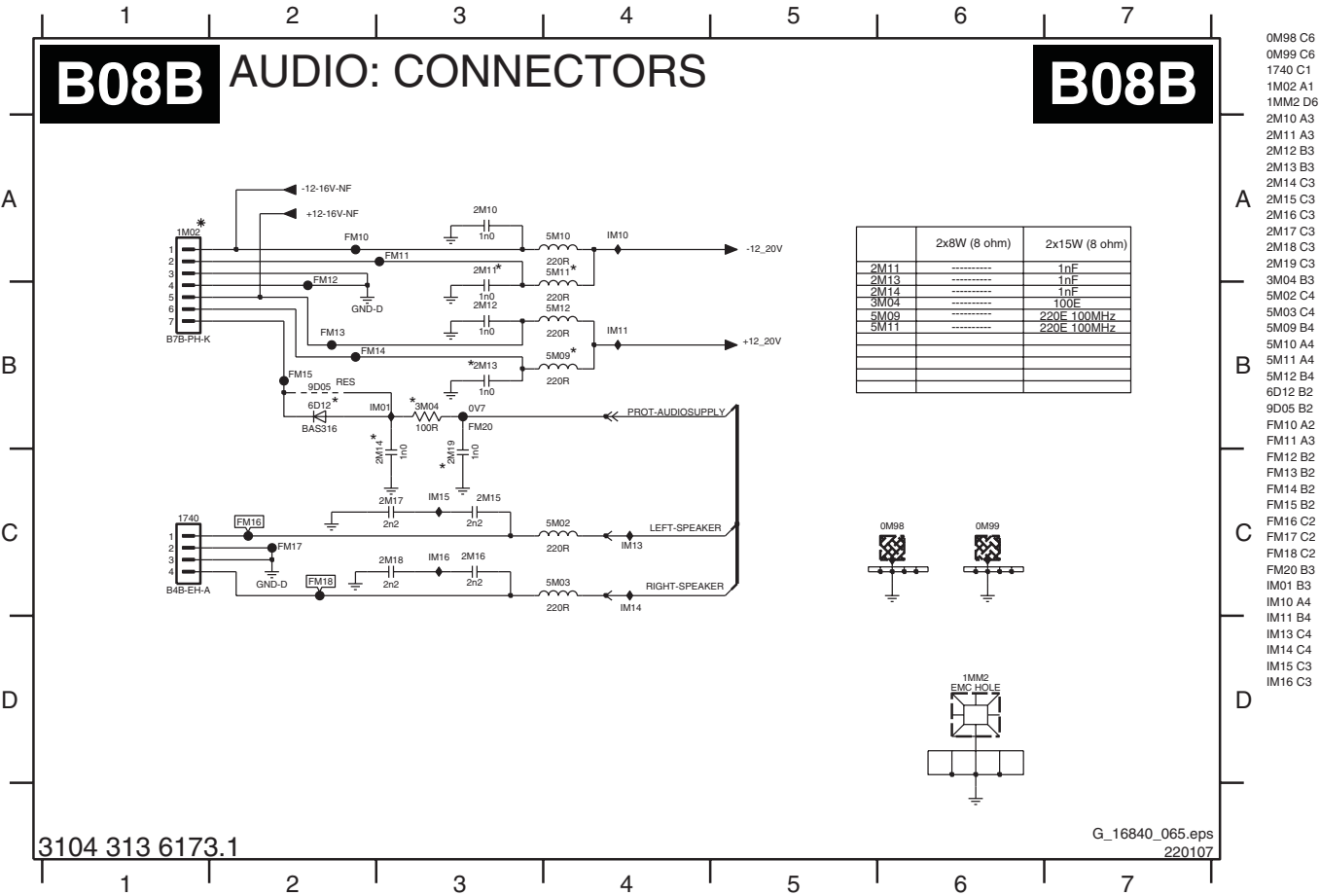
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	D220 F7	D232 F6	D243 H14	D252 E6	D261 H9	D271 G1	3D15 B5	3D24 C4	3D39-3 G3	3D45 F12	3D58 G11	3D71 H3	3D81 G4	3D90 E9	5D18 F6	D712-2 C5	D718-2 G5	D725-1 C8	9D03-4 G6	F054 B3	I017 F13	I029 G12	I038 G10	I047 H11	I060 B4	I071 C10	I082 F5	cD05 E15		
	D202 B5	D221 G4	D235 G2	D244 H5	D253 F7	D262 H9	D272 G10	3D16 B6	3D25 C3	3D39-4 E5	3D46 F6	3D60 F6	3D72 H11	3D82 C7	5D01 E9	D19 F14	D712-1 D4	D725-2 B9	9D04-1 F13	F073 C9	I018 B5	I030 C7	I039 G2	I048 B6	I061 C4	I072 C10	I083 F6			
	D203 C5	D222 H14	D236 G10	D245 H3	D254 F14	D263 C6	D273 G3	3D17 B2	3D26 D4	3D40-1 F11	3D47 F13	3D61 F13	3D73 H3	3D83 C7	5D10 E7	6D10 B4	D712-2 C4	D726-1 C9	9D04-2 F13	I010 E7	I020 F2	I031 B8	I040 G7	I050 B5	I062 F1	I074 F9	I086 F4			
	D211 B2	D232 E14	D237 G6	D246 H10	D255 F2	D264 E9	D274 G10	3D18 B2	3D34 E3	3D40-2 E11	3D48 E1	3D64 G4	3D74 H11	3D84 B8	5D11 E15	D011 C4	D714 F4	D721-1 F2	D726-2 B10	9D04-3 F13	I011 E15	I021 F11	I032 G5	I041 D15	I052 B1	I063 C7	I075 F11	I087 F4		
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	D219 F13	D239 F13	D242 H13	D250 F14	D259 F14	D268 H9	D277 G10	3D20 A3	3D36 F11	3D40-4 E13	3D49 E12	3D66 F13	3D76 H11	3D86 B3	5D13 F14	D013 F4	D716 E5	D722-1 F14	D726-4 E13	9D04-5 F13	I013 E11	I023 I2	I034 G5	I043 G12	I054 B2	I065 F14	I077 G10	I082 F14		
	D217 E5	D238 F7	D240 G3	D249 H10	D258 G14	D267 H2	D276 H3	3D21 A4	3D21 C3	3D38 E11	3D42 C3	3D54 F1	3D68 G3	3D87 C10	5D14 G7	D710-3 F10	D716-2 F4	D723-1 E12	9D03-1 F6	F028 F2	I014 F5	I024 F8	I035 G6	I044 G2	I055 C6	I066 F9	I078 F13	I093 E6		
	D218 E15	D230 F3	D241 H7	D250 H10	D259 G6	D268 H10	3D13 B2	3D22 C6	3D39-1 F4	3D43 E1	3D56 G2	3D69 G10	3D78 E12	3D88 C10	5D15 G15	D710-4 B4	D717 G4	D723-2 G13	9D03-2 F6	F027 G10	I015 F12	I025 F1	I036 G4	I045 G13	I056 C4	I067 E9	I080 E1	cD01 D15		

B08A



SSB: Audio: Connectors

SSB: SRP List Explanation



Example

Net Name	Diagram
+12-15V	AP1 (4x)
+12-15V	AP4 (4x)
+12-15V	AP5 (12x)
+12-15V	AP6 (4x)
+12-15V	AP7 (8x)
+12V	AP1 (4x)
+12V_NF	AP1 (2x)
+12VAL	AP1 (2x)
+25VLP	AP1 (4x)
+25VLP	AP2 (1x)
+3V3-STANDBY	AP5 (3x)
+400V-F	AP1 (2x)
+400V-F	AP2 (2x)
+400V-F	AP3 (2x)
+5V2	AP1 (6x)
+5V2	AP2 (1x)
+5V2-NF	AP1 (1x)
+5V2-NF	AP2 (1x)
+5V-SW	AP1 (6x)
+5V-SW	AP2 (1x)
+8V6	AP1 (3x)
+AUX	AP1 (2x)
+AUX	AP2 (1x)
+DC-F	AP1 (2x)
+DC-F	AP3 (2x)
+SUB-SPEAKER	AP5 (1x)
+SUB-SPEAKER	AP6 (2x)
-12-15V	AP1 (4x)
-12-15V	AP4 (6x)
-12-15V	AP5 (14x)
-12-15V	AP6 (6x)
-12-15V	AP7 (8x)
AL-OFF	AP1 (2x)
AUDIO-L	AP5 (1x)
AUDIO-PROT	AP5 (3x)
AUDIO-R	AP4 (1x)
AUDIO-R	AP5 (1x)
AUDIO-SW	AP5 (1x)
AUDIO-SW	AP7 (1x)
BOOST	AP1 (2x)
CPROT	AP4 (2x)
CPROT	AP5 (1x)
CPROT-SW	AP5 (1x)
CPROT-SW	AP6 (2x)
-DC-F	AP1 (2x)
-DC-F	AP3 (2x)
DC-PROT	AP1 (1x)
DC-PROT	AP5 (2x)
DIM-CONTROL	AP1 (2x)
FEEDBACK-SW	AP6 (2x)
FEEDBACK-L	AP4 (2x)
FEEDBACK-R	AP4 (2x)
FEEDBACK-SW	AP6 (2x)
GND-AL	AP1 (2x)
GNDHA	AP1 (40x)
GNDHA	AP2 (20x)
GNDHA	AP3 (2x)
GNDHOT	AP3 (2x)
GND-L	AP1 (2x)
GND-L	AP4 (4x)
GND-L	AP5 (34x)
GND-LL	AP4 (7x)
GND-LL	AP5 (1x)
GND-LR	AP4 (7x)
GND-LR	AP5 (1x)
GND-LSW	AP5 (1x)
GND-LSW	AP6 (15x)
GND-S	AP1 (11x)
GND-SA	AP4 (8x)
GND-SA	AP5 (2x)
GND-SA	AP6 (8x)
GND-SA	AP7 (6x)
GNDscrew	AP3 (2x)
GNDscrew	AP5 (2x)
GND-SSB	AP5 (3x)
GND-SSP	AP1 (51x)
GND-SSP	AP2 (15x)
IN-SW	AP6 (2x)
IN-L	AP4 (2x)
IN-R	AP4 (2x)
IN-SW	AP6 (2x)
INV-MUTE	AP4 (1x)
INV-MUTE	AP5 (1x)
INV-MUTE	AP6 (1x)
LEFT-SPEAKER	AP4 (1x)
LEFT-SPEAKER	AP5 (1x)
MUTE	AP4 (2x)
MUTE	AP5 (1x)
MUTE	AP6 (2x)
ON-OFF	AP1 (3x)
OUT	AP6 (1x)
OUT	AP7 (2x)
OUTN	AP6 (1x)
OUTN	AP7 (1x)
POWER-GOOD	AP1 (2x)
POWER-OK-PLATFORM	AP1 (2x)
RIGHT-SPEAKER	AP4 (1x)
RIGHT-SPEAKER	AP5 (1x)
SOUND-ENABLE	AP5 (3x)
STANDBY	AP1 (5x)
STANDBY	AP2 (1x)
-SUB-SPEAKER	AP5 (1x)
-SUB-SPEAKER	AP6 (2x)
V-CLAMP	AP1 (1x)
V-CLAMP	AP3 (2x)

1.1. Introduction

SRP (Service Reference Protocol) is a software tool that creates a list with all references to signal lines. The list contains references to the signals within all schematics of a PWB. It replaces the text references currently printed next to the signal names in the schematics. These printed references are created manually and are therefore not guaranteed to be 100% correct. In addition, in the current crowded schematics there is often none or very little place for these references. Some of the PWB schematics will use SRP while others will still use the manual references. Either there will be an SRP reference list for a schematic, or there will be printed references in the schematic.

1.2. Non-SRP Schematics

There are several different signals available in a schematic:

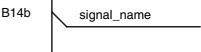
1.2.1. Power Supply Lines

All power supply lines are available in the supply line overview (see chapter 6). In the schematics (see chapter 7) is not indicated where supplies are coming from or going to. It is however indicated if a supply is incoming (created elsewhere), or outgoing (created or adapted in the current schematic).



1.2.2. Normal Signals

For normal signals, a schematic reference (e.g. B14b) is placed next to the signals.

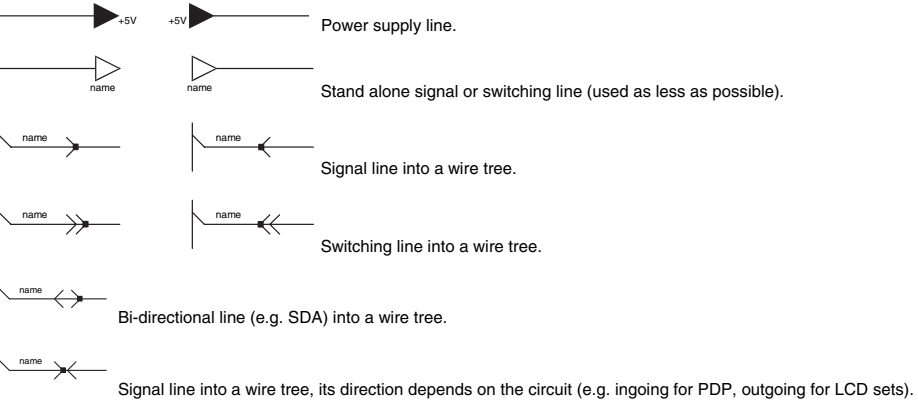


1.2.3. Grounds

For normal and special grounds (e.g. GNDHOT or GND3V3 etc.), nothing is indicated.

1.3. SRP Schematics

SRP is a tool, which automatically creates a list with signal references, indicating on which schematic the signals are used. A reference is created for all signals indicated with an SRP symbol, these symbols are:



Remarks:

- When there is a black dot on the "signal direction arrow" it is an SRP symbol, so there will be a reference to the signal name in the SRP list.
- All references to normal grounds (Ground symbols without additional text) are not listed in the reference list, this to keep it concise.
- Signals that are not used in multiple schematics, but only once or several times in the same schematic, are included in the SRP reference list, but only with one reference.

Additional Tip:

When using the PDF service manual file, you can very easily search for signal names and follow the signal over all the schematics. In Adobe PDF reader:

- Select the signal name you want to search for, with the "Select text" tool.
- Copy and paste the signal name in the "Search PDF" tool.
- Search for all occurrences of the signal name.
- Now you can quickly jump between the different occurrences and follow the signal over all schematics. It is advised to "zoom in" to e.g. 150% to see clearly, which text is selected. Then you can zoom out, to get an overview of the complete schematic.

PS. It is recommended to use at least Adobe PDF (reader) version 6.x, due to better search possibilities in this version. E_06532_031.eps 230608

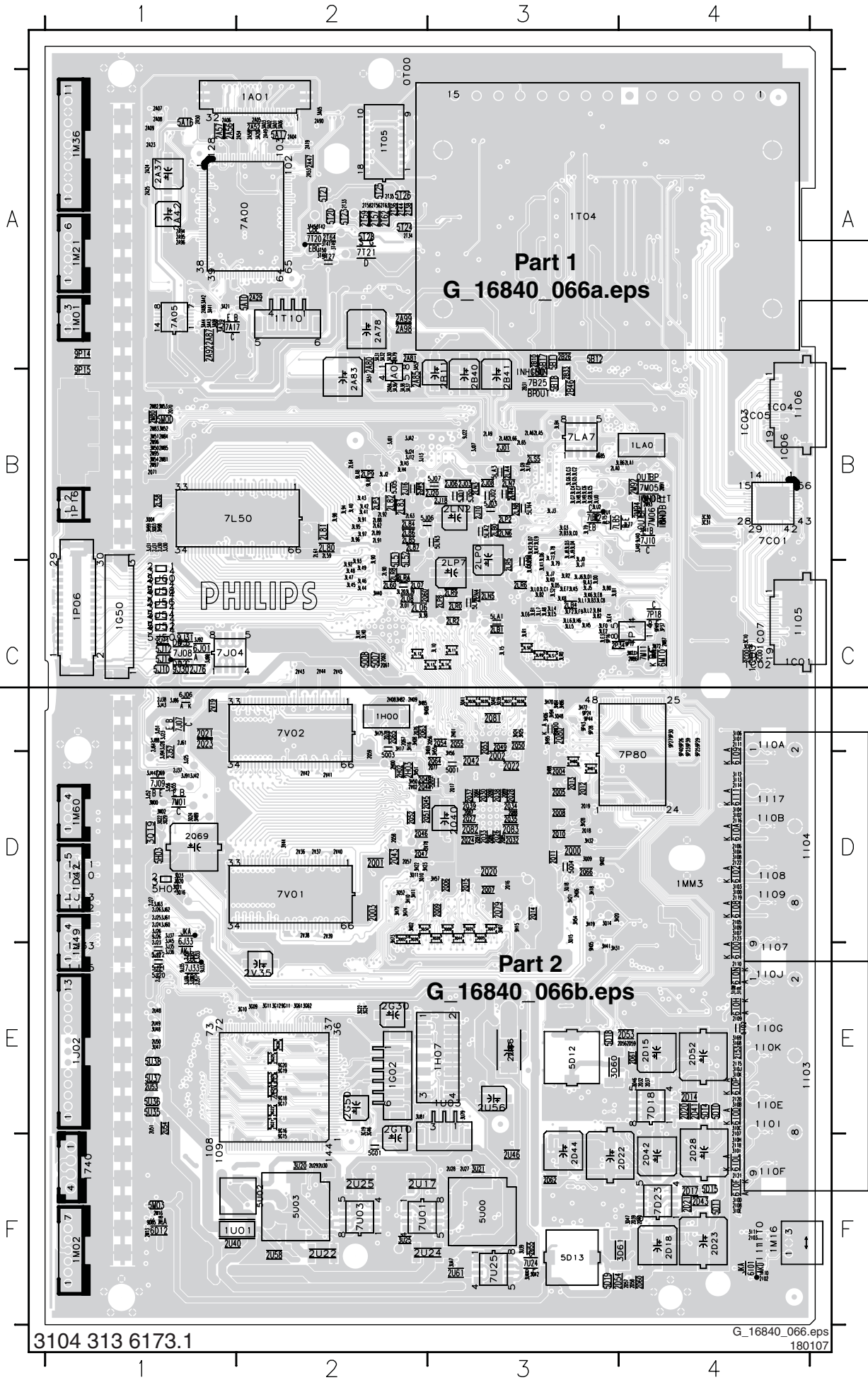
SSB: SRP List Part 1

Netname	Schematic												
+12_20V	B08A	+5VTUN	B03D	CHDEC-CLK	B02A	DV3F-DATA7_5	B05C	DV-GOUT-9	B06	I2S-MAIN-ND	B05C	MM_DATA_15	B05B
+12_20V	B08B	+8V-AUD	B03D	CHDEC-CLK	B05A	DV3F-DATA8_6	B04B	DV-HREF	B04B	I2S-MCH-CSW	B04A	MM_DATA_16	B05B
+12-16V-NF	B01B	+8V-AUD	B03E	CHDEC-CLK	B05C	DV3F-DATA8_6	B05C	DV-HREF	B07B	I2S-MCH-CSW	B05C	MM_DATA_17	B05B
+12-16V-NF	B08B	-12_20V	B08A	CLK-MPIF	B03B	DV3F-DATA9_7	B04B	DV-OUT-DE	B05C	I2S-MCH-LR	B04A	MM_DATA_18	B05B
+12VS	B01A	-12_20V	B08B	CLK-MPIF	B04A	DV3F-DATA9_7	B05C	DV-OUT-DE	B06	I2S-MCH-LR	B05C	MM_DATA_19	B05B
+12VS	B01B	-12-16V-NF	B01B	CPROT	B08A	DV3F-VALID	B04B	DV-OUT-FFIELD	B05C	I2S-MCH-SLR	B04A	MM_DATA_20	B05B
+12VSW	B01A	-12-16V-NF	B08B	CTRL1-VIPER	B04G	DV3F-VALID	B05C	DV-OUT-FFIELD	B06	I2S-MCH-SLR	B05C	MM_DATA_21	B05B
+12VSW	B01B	1V8-PLL	B07A	CTRL1-VIPER	B05C	DV4-CLK	B04B	DV-OUT-HS	B05C	I2S-SUB-D	B04A	MM_DATA_22	B05B
+12VSW	B01B	1V8-PLL	B07B	CTRL4-STBY	B04E	DV4-CLK	B07B	DV-OUT-HS	B06	I2S-SUB-D	B05C	MM_DATA_23	B05B
+12VSW	B02A	3V3-APLL	B07A	CTRL4-STBY	B04G	DV4-DATA0_SOP	B04B	DV-OUT-VS	B04G	I2S-WS-MAIN	B04A	MM_DATA_24	B05B
+12VSW	B02B	3V3-APLL	B07B	CTRL4-VIPER	B04G	DV4-DATA0_SOP	B07B	DV-OUT-VS	B05C	I2S-WS-MAIN	B05C	MM_DATA_25	B05B
+12VSW	B03E	3V3-AVI	B07A	CTRL4-VIPER	B05A	DV4-DATA1_ERR	B04B	DV-OUT-VS	B06	IF-ANA	B02B	MM_DATA_26	B05B
+12VSW	B04E	3V3-AVI	B07B	CTRL-DISP1	B04G	DV4-DATA1_ERR	B07B	DV-ROUT-0	B05C	IF-ANA	B03C	MM_DATA_27	B05B
+12VSW	B04E	3V3-DIG	B07A	CTRL-DISP2	B04G	DV4-DATA2_0	B04B	DV-ROUT-0	B06	INIT	B06	MM_DATA_28	B05B
+12VSW	B04G	3V3-DIG	B07B	CTRL-DISP3	B04G	DV4-DATA2_0	B07B	DV-ROUT-1	B05C	INV-MUTE	B08A	MM_DATA_29	B05B
+12VSW	B07C	3V3-PLL	B07A	CTRL-DISP4	B04G	DV4-DATA3_1	B04B	DV-ROUT-1	B06	IRQ-AVIP	B04E	MM_DATA_30	B05B
+1V2	B01A	ADAC1	B04A	CVBS-OUTIF-MAIN	B03A	DV4-DATA3_1	B07B	DV-ROUT-2	B05C	IRQ-AVIP	B05A	MM_DATA_31	B05B
+1V2	B02A	ADAC1	B08A	CVBS-OUTIF-MAIN	B03C	DV4-DATA4_2	B04B	DV-ROUT-2	B06	IRQ-FE-MAIN	B02A	MM_DATA_4	B05B
+1V2	B04E	ADAC2	B04A	DATA1N-MAIN	B03A	DV4-DATA4_2	B07B	DV-ROUT-3	B05C	IRQ-FE-MAIN	B05A	MM_DATA_5	B05B
+1V2	B05D	ADAC2	B08A	DATA1N-MAIN	B04A	DV4-DATA5_3	B07B	DV-ROUT-3	B06	IRQ-HD1	B04E	MM_DATA_6	B05B
+1V2	B06	ADAC7	B03E	DATA1P-MAIN	B03A	DV4-DATA5_3	B04B	DV-ROUT-4	B05C	IRQ-HD1	B05A	MM_DATA_7	B05B
+1V2_ATSC	B02A	ADAC7	B04A	DATA1P-MAIN	B04A	DV4-DATA6_4	B07B	DV-ROUT-4	B06	IRQ-HD2	B04E	MM_DATA_8	B05B
+1V2F	B02A	ADAC8	B03E	DATA2N-MAIN	B03A	DV4-DATA6_4	B04B	DV-ROUT-5	B05C	IRQ-HD2	B05A	MM_DATA_9	B05B
+1V2M	B06	ADAC8	B04A	DATA2N-MAIN	B04A	DV4-DATA7_5	B07B	DV-ROUT-5	B06	IRQ-HIRATE	B04E	MM_DATA_10	B05B
+1V2-STANDBY	B04E	AGND	B07B	DATA2P-MAIN	B03A	DV4-DATA7_5	B04B	DV-ROUT-6	B05C	IRQ-HIRATE	B05A	MM_DATA_11	B05B
+1V2-STANDBY	B05F	AIN-5V	B07E	DATA2P-MAIN	B04A	DV4-DATA8_6	B07B	DV-ROUT-6	B06	IRQ-HIRATE	B07B	MM_DATA_12	B05B
+1V8	B07A	ALE	B04E	DATA3N-MAIN	B03A	DV4-DATA8_6	B04B	DV-ROUT-7	B05C	IRQ-MAIN	B05A	MM_DATA_13	B05B
+1V8	B07B	A-PLOP	B03E	DATA3N-MAIN	B04A	DV4-DATA9_7	B04B	DV-ROUT-7	B06	IRQ-MPIF	B03B	MM_DATA_14	B05B
+2V5	B01A	A-PLOP	B04A	DATA3P-MAIN	B03A	DV4-DATA9_7	B07B	DV-ROUT-8	B05C	IRQ-MPIF	B05A	MM_DATA_15	B05B
+2V5	B02A	A-PLOP	B05A	DATA3P-MAIN	B04A	DV4-VALID	B04B	DV-ROUT-8	B06	ITV-IR-SW-RESET	B03A	MM_DATA_16	B05B
+2V5	B04D	ARX0-	B07E	DDC-SCL	B07B	DV4-VALID	B07B	DV-ROUT-9	B05C	JTAG-TCK	B04E	MM_DATA_17	B05B
+2V5	B05D	ARX0+	B07E	DDC-SCL	B07E	DV5-DATA0_SOP	B07B	DV-ROUT-9	B06	JTAG-TCK	B05A	MM_DATA_18	B05B
+2V5	B06	ARX1-	B07E	DDC-SDA	B07B	DV5-DATA0_SOP	B04B	DV-VREF	B04B	JTAG-TCK	B07B	MM_DATA_19	B05B
+2V5A	B02A	ARX1+	B07E	DDC-SDA	B07E	DV5-DATA1_ERR	B07B	DV-VREF	B04E	JTAG-TD-CON-VIPER	B05A	MM_DATA_20	B05B
+2V5A-ADC	B02A	ARX2-	B07E	DEBUG-BREAK	B04E	DV5-DATA1_ERR	B04B	EA	B04E	JTAG-TD-HDMI-CON	B07B	MM_DATA_21	B05B
+2V5A-PLL	B02A	ARX2+	B07E	DEBUG-BREAK	B05A	DV5-DATA2_0	B07B	EJTAG-DETECT	B01B	JTAG-TD-PNX2015-HDMI	B04E	MM_DATA_22	B05B
+2V5A-XTAL	B02A	ARXC-	B07E	DETECT-12V	B04E	DV5-DATA2_0	B04B	EJTAG-DETECT	B04E	JTAG-TD-PNX2015-HDMI	B07B	MM_DATA_23	B05B
+2V5D	B01A	ARXC+	B07E	DETECT-1V2	B04E	DV5-DATA3_1	B07B	EJTAG-TCK	B01B	JTAG-TD-VIPER-PNX2015	B04E	MM_DATA_24	B05B
+2V5D-DDRPNX	B04D	ARX-DDC-SCL	B07E	DETECT-3V3	B04E	DV5-DATA3_1	B04B	EJTAG-TCK	B05A	JTAG-TD-VIPER-PNX2015	B05A	MM_DATA_25	B05B
+2V5D-DDRPNX	B04F	ARX-DDC-SDA	B07E	DETECT-5V	B04E	DV5-DATA4_2	B07B	EJTAG-TDI	B01B	JTAG-TMS	B04E	MM_DATA_26	B05B
+2V5D-PLL	B02A	ARX-HOTPLUG	B07E	DETECT-8V6	B04E	DV5-DATA4_2	B04B	EJTAG-TDI	B05A	JTAG-TMS	B05A	MM_DATA_27	B05B
+2V5F	B02A	AUDIO-HDPH-L-AP	B03A	DIN	B06	DV5-DATA5_3	B07B	EJTAG-TDO	B01B	JTAG-TMS	B07B	MM_DATA_28	B05B
+2V5M	B06	DMMI-HDPH-L-AP	B03E	DMMI_PB-PB-IN	B03A	DV5-DATA5_3	B04B	EJTAG-TDO	B05A	JTAG-TRST	B01B	MM_DATA_29	B05B
+2V5-VPR	B05B	AUDIO-HDPH-R-AP	B03A	DMMI_G-Y-IN	B03A	DV5-DATA6_4	B07B	EJTAG-TMS	B05A	JTAG-TRST	B04E	MM_DATA_30	B05B
+2V5-VPR	B05D	AUDIO-HDPH-R-AP	B03E	DMMI_R-PR-IN	B03A	DV5-DATA6_4	B04B	EJTAG-TMS	B01B	JTAG-TRST	B05A	MM_DATA_31	B05B
+3V3	B01A	AUDIO-IN1-L	B03D	DSNDL1	B03D	DV5-DATA7_5	B07B	ENABLE-1V2	B01A	JTAG-TRST	B07B	MM_DATA_32	B05B
+3V3	B01B	AUDIO-IN1-L	B07C	DSNDL1	B04A	DV5-DATA7_5	B04B	ENABLE-1V2	B04E	KEYBOARD	B04E	MM_DATA_33	B05B
+3V3	B02A	AUDIO-IN1-R	B03D	DSNDL1	B04A	DV5-DATA8_6	B07B	ENABLE-3V3	B01A	KEYBOARD	B05F	MM_DATA_34	B05B
+3V3	B04E	AUDIO-IN1-R	B07C	DSNDR1	B03D	DV5-DATA8_6	B04B	ENABLE-3V3	B04E	LAMP-ON	B04E	MM_DATA_35	B05B
+3V3	B04G	AUDIO-IN3-L	B03A	DSNDR1	B04A	DV5-DATA9_7	B04B	FAT-ADC-INN	B02A	LAMP-ON	B04G	MM_DATA_36	B05B
+3V3	B05A	AUDIO-IN3-L	B03D	DV1F-CLK	B02A	DV5-DATA9_7	B07B	FAT-ADC-INN	B02B	LAMP-ON-OUT	B01B	MM_DATA_37	B05B
+3V3	B05C	AUDIO-IN3-R	B03A	DV1F-CLK	B05C	DV-BOUT-0	B05C	FAT-ADC-INP	B02A	LAMP-ON-OUT	B04G	MM_DATA_38	B05B
+3V3	B05D	AUDIO-IN3-R	B03D	DV1F-DATA0	B02A	DV-BOUT-0	B06	FAT-ADC-INP	B02B	LED1	B04E	MM_DATA_39	B05B
+3V3	B05E	AUDIO-IN4-L	B03D	DV1F-DATA0	B05C	DV-BOUT-1	B05C	FAT-IF-AGC	B02A	LED1	B05F	MM_DATA_40	B05B
+3V3	B06	AUDIO-IN4-L	B07C	DV1F-DATA1	B02A	DV-BOUT-1	B06	FAT-IF-AGC	B02B	LED2	B04E	MM_DATA_41	B05B
+3V3	B07A	AUDIO-IN4-R	B03D	DV1F-DATA1	B05C	DV-BOUT-2	B05C	FEEDBACK	B08A	LED2	B05F	MM_DATA_42	B05B
+3V3	B07B	AUDIO-IN4-R	B07C	DV1F-DATA2	B02A	DV-BOUT-2	B06	FEEDBACK-LR	B08A	LEFT-SPEAKER	B08A	MM_DATA_43	B05B
+3V3	B07E	AUDIO-IN5-L	B03A	DV1F-DATA2	B05C	DV-BOUT-3	B05C	FEEDBACK-RL	B08A	LEFT-SPEAKER	B08B	MM_DATA_44	B05B
+3V3-ANA-MUX	B07E	AUDIO-IN5-L	B03D	DV1F-DATA3	B02A	DV-BOUT-3	B06	FM-TRAP	B02A	LIGHT-SENSOR	B04E	MM_DATA_45	B05B
+3V3-AV	B07A	AUDIO-IN5-L	B03D	DV1F-DATA3	B05C	DV-BOUT-4	B05C	FM-TRAP	B02B	LIGHT-SENSOR	B05F	MM_DATA_46	B05B
+3V3-DIG-MUX	B07E	AUDIO-IN5-R	B03A	DV1F-DATA4	B02A	DV-BOUT-4	B06	FRONT_C	B03A	LVDS-3V3	B04F	MM_DATA_47	B05B
+3V3F	B02A	AUDIO-IN5-R	B03D	DV1F-DATA4	B05C	DV-BOUT-5	B05C	FRONT_Y-CVBS	B03A	M135-CLK	B05A	MM_DATA_48	B05B
+3V3M	B06	AUDIO-OUT1-L	B03A	DV1F-DATA5	B02A	DV-BOUT-5	B06	FRONT-DETECT	B04E	M135-CLK	B07B	MM_DATA_49	B05B
+3V3-STANDBY	B03A	AUDIO-OUT1-L	B03D	DV1F-DATA5	B05C	DV-BOUT-6	B05C	GLINK-RXD	B01B	M27-MOP	B05A	MM_DATA_50	B05B
+3V3-STANDBY	B04E	AUDIO-OUT1-R	B03A	DV1F-DATA6	B02A	DV-BOUT-6	B06	GLINK-RXD	B04G	M27-MOP	B06	MM_DATA_51	B05B
+3V3-STANDBY	B04G	AUX-IF-AGC	B03D	DV1F-DATA6	B05C	DV-BOUT-7	B05C	GLINK-RXD	B05A	M27-PNX	B04E	MM_DATA_52	B05B
+3V3-STANDBY	B05E	AUX-IF-AGC	B02A	DV1F-DATA7	B02A	DV-BOUT-7	B06	GLINK-TXD	B01B	M27-PNX	B05A	MM_DATA_53	B05B
+3V3-STANDBY	B05F	AV1-AV6_FBL-HSYNC	B02B	DV1F-DATA7	B05C	DV-BOUT-8	B05C	GLINK-TXD	B04G	MM_A0	B05B	MM_DATA_54	B05B
+3V3-STANDBY	B07D	AV1-AV6_FBL-HSYNC	B03A	DV1F-DATA8_ERR	B02A	DV-BOUT-8	B06	GLINK-TXD	B05A	MM_A1	B05B	MM_DATA_55	B05B
+3V3-STANDBY	B08A	AV2_FBL	B04A	DV1F-DATA8_ERR	B05C	DV-BOUT-9	B05C	GND-D	B01B	MM_A10	B05B	MM_DATA_56	B05B
+3V3-UART	B01B	AV6_VSYNC	B04A	DV1F-DATA9_SOP	B02A	DV-BOUT-9	B06	GND-D	B08A	MM_A11	B05B	MM_DATA_57	B05B
+5V	B02A	AV7_Y-CVBS	B03A	DV1F-DATA9_SOP	B05C	DV-CLKIN	B05C	GND-D	B08B	MM_A12	B05B	MM_DATA_58	B05B
+5V	B02B	AV7_Y-CVBS	B07C	DV1F-VALID	B02A	DV-CLKIN	B06	GND-DL	B08A	MM_A2	B05B	MM_DATA_59	B05B
+5V	B03A	AV-BOUT	B04G	DV1F-VALID	B05C	DV-FREF	B04B	GND-DR	B08A	MM_A3	B05B	MM_DATA_60	B05B
+5V	B03B	AV-GOUT	B04G	DV2A-CLK	B04B	DV-FREF	B07B	GND-SIG	B01A	MM_A4	B05B	MM_DATA_61	B05B
+5V	B03C	AV-ROUT	B04G	DV2A-VALID	B05C	DV-GOUT-0	B05C	H_SYNC_IN	B03A	MM_A5	B05B	MM_DATA_62	B05B
+5V	B03E	BACKLIGHT-CNTRL-OUT	B01B	DV3F-CLK	B04B	DV-GOUT-0	B06	HDMI-COAST	B05A	MM_A6	B05B	MM_DATA_63	B05B
+5V	B04E	BACKLIGHT-CNTRL-OUT	B04G	DV3F-CLK	B05C	DV-GOUT-1	B05C	HDMI-COAST	B07B	MM_A7	B05B	MM_DATA_64	B05B
+5V	B04G	BACKLIGHT-CONTROL	B04E	DV3F-CLK	B04B	DV-GOUT-1	B06	HP-DET-R-DC	B03A	MM_A8	B05B	MM_DATA_65	B05B
+5V	B05A	BACKLIGHT-CONTROL	B04G	DV3F-DATA0_SOP	B04B	DV-GOUT-2	B05C	HPD-HIRATE	B05A	MM_A9	B05B	MM_DATA_66	B05B
+5V	B07A	BACKLIGHT-CONTROL	B05C	DV3F-DATA0_SOP	B05C	DV-GOUT-2	B06	HPD-HIRATE	B07B	MM_BA0	B05B	MM_DATA_67	B05B
+5V2-STBY	B01B	BIN-5V	B07E	DV3F-DATA1_ERR	B04B	DV-GOUT-3	B05C	HPD-HIRATE	B07E	MM_BA1	B05B	MM_DATA_68	B05B
+5V2-STBY	B03E	BRX0-	B07E	DV3F-DATA1_ERR	B05C	DV-GOUT-3	B06	H-SYNC-VGA	B07B	MM_CAS	B05B	MM_DATA_69	B05B
+5V2-STBY	B04A	BRX0+	B07E	DV3F-DATA2_0	B04B	DV-GOUT-4	B05C	HV-PRM-MAIN	B03A	MM_CKE	B05B	MM_DATA_70	B05B
+5V2-STBY	B05E	BRX1-	B07E	DV3F-DATA2_0	B05C	DV-GOUT-4	B06	HV-PRM-MAIN	B04A	MM_CLK_N	B05B	MM_DATA_71	B05B
+5V2-STBY	B05F	BRX1+	B07E	DV3F-DATA3_1	B04B	DV-GOUT-5	B05C	I2C-SCL-TUNER	B02A	MM_CLK_P	B05B	MM_DATA_72	B05B
+5VaM	B03C	BRX2-	B07E	DV3F-DATA3_1	B05C	DV-GOUT-5	B06	I2C-SCL-TUNER	B02B	MM_CS0	B05B	MM_DATA_73	B05B
+5VbM	B03C	BRX2+	B07E	DV3F-DATA4_2	B04B	DV-GOUT-6	B05C	I2C-SDA-TUNER	B02A	MM_DATA_0	B05B	MM_DATA_74	B05B
+5V-CON	B07E	BRXC+	B07E	DV3F-DATA4_2	B05C	DV-GOUT-6	B06	I2C-SDA-TUNER	B02B	MM_DATA_1	B05B	MM_DATA_75	B05B
+5V-MUX	B07E	BRXC-	B07E	DV3F-DATA5_3	B04B	DV-GOUT-7	B05C	I2S-BCLK-MAIN	B04A	MM_DATA_10	B05B	MM_DATA_76	B05B
+5VTUN	B02B	BRX-DDC-SCL	B07E	DV3F-DATA5_3	B05C	DV-GOUT-7	B06	I2S-BCLK-MAIN	B05C	MM_DATA_11	B05B	MM_DATA_77	B05B
+5VTUN	B03C	BRX-DDC-SDA	B07E	DV3F-DATA6_4	B04B	DV-GOUT-8	B05C	I2S-MAIN-D	B04A	MM_DATA_12	B05B	MM_DATA_78	B05B
		BRX-HOTPLUG	B07E	DV3F-DATA6_4	B05C	DV-GOUT-8	B06	I2S-MAIN-D	B05C	MM_DATA_13	B05B	MM_DATA_79	B05B
				DV3F-DATA7_5	B04B	DV-GOUT-9	B05C	I2S-MAIN-ND	B04A	MM_DATA_14	B05B	MM_DATA_80	B05B

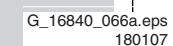
SSB: SRP List Part 2

Netname	Schematic										
MP-B0	B06	MP-ROUT-1	B04B	PNX-MA-1	B04D	RXC+	B07E	TUN-VIPER-RX-DATA13	B04C	TXPNXE+	B04G
MP-B1	B06	MP-ROUT-1	B06	PNX-MA-10	B04D	RXD	B01B	TUN-VIPER-RX-DATA13	B05C	UART-SWITCH	B04E
MP-B2	B06	MP-ROUT-2	B04B	PNX-MA-11	B04D	RXD	B05E	TUN-VIPER-RX-DATA14	B04C	UART-SWITCH	B05E
MP-B3	B06	MP-ROUT-2	B06	PNX-MA-12	B04D	RXD	B07D	TUN-VIPER-RX-DATA14	B05C	UART-SWITCHn	B05E
MP-B4	B06	MP-ROUT-3	B04B	PNX-MA-2	B04D	RXD-UP	B04E	TUN-VIPER-RX-DATA15	B04C	UP-3V3	B04F
MP-B5	B06	MP-ROUT-3	B06	PNX-MA-3	B04D	RXD-UP	B05E	TUN-VIPER-RX-DATA15	B05C	USB1-DM	B05A
MP-B6	B06	MP-ROUT-4	B04B	PNX-MA-4	B04D	RXD-VIPER	B05A	TUN-VIPER-RX-DATA2	B04C	USB1-DP	B05A
MP-B7	B06	MP-ROUT-4	B06	PNX-MA-5	B04D	RXD-VIPER	B05E	TUN-VIPER-RX-DATA2	B05C	USB-BUS-PW	B05A
MP-B8	B06	MP-ROUT-5	B04B	PNX-MA-6	B04D	SCL-DMA	B02A	TUN-VIPER-RX-DATA3	B04C	USB-OVERCUR	B05A
MP-B9	B06	MP-ROUT-5	B06	PNX-MA-7	B04D	SCL-DMA	B03A	TUN-VIPER-RX-DATA3	B05C	U-VOLT-DETECT	B08A
MP-BOUT-0	B04B	MP-ROUT-6	B04B	PNX-MA-8	B04D	SCL-DMA	B03B	TUN-VIPER-RX-DATA4	B04C	V_SYNC_IN	B03A
MP-BOUT-0	B06	MP-ROUT-6	B06	PNX-MA-9	B04D	SCL-DMA	B04E	TUN-VIPER-RX-DATA4	B05C	VDISP	B04G
MP-BOUT-1	B04B	MP-ROUT-7	B04B	PNX-MBA0	B04D	SCL-DMA	B05A	TUN-VIPER-RX-DATA5	B04C	VN	B08A
MP-BOUT-1	B06	MP-ROUT-7	B06	PNX-MBA1	B04D	SCL-I2C4	B04G	TUN-VIPER-RX-DATA5	B05C	VP	B08A
MP-BOUT-2	B04B	MP-ROUT-8	B04B	PNX-MCAS	B04D	SCL-I2C4	B05A	TUN-VIPER-RX-DATA6	B04C	VREF-AUD	B03B
MP-BOUT-2	B06	MP-ROUT-8	B06	PNX-MCKE	B04D	SCL-MM	B05A	TUN-VIPER-RX-DATA6	B05C	VREF-AUD	B03E
MP-BOUT-3	B04B	MP-ROUT-9	B04B	PNX-MCLK-N	B04D	SCL-MM	B06	TUN-VIPER-RX-DATA7	B04C	VREF-AUD-POS	B03B
MP-BOUT-3	B06	MP-ROUT-9	B06	PNX-MCLK-P	B04D	SCL-MM	B07B	TUN-VIPER-RX-DATA7	B05C	VREF-AUD-POS	B04A
MP-BOUT-4	B04B	MP-VS	B06	PNX-MCS-0	B04D	SCL-MM	B07E	TUN-VIPER-RX-DATA8	B04C	VREF-DDRPNX	B04D
MP-BOUT-4	B06	MUTE	B08A	PNX-MDATA-0	B04D	SCL-MOP	B04G	TUN-VIPER-RX-DATA8	B05C	VREFD-VPRDDR	B05B
MP-BOUT-5	B04B	NAND-AD(0)	B05A	PNX-MDATA-1	B04D	SCL-MOP	B06	TUN-VIPER-RX-DATA9	B04C	VREF-PNX	B04C
MP-BOUT-5	B06	NAND-AD(0)	B05E	PNX-MDATA-10	B04D	SCL-UP-SW	B04E	TUN-VIPER-RX-DATA9	B05C	VREF-PNX	B05C
MP-BOUT-6	B04B	NAND-AD(1)	B05A	PNX-MDATA-11	B04D	SCL-UP-VIP	B04E	TUN-VIPER-TX-BUSY	B04C	VREF-VPRDDR	B05B
MP-BOUT-6	B06	NAND-AD(1)	B05E	PNX-MDATA-12	B04D	SCL-UP-VIP	B05A	TUN-VIPER-TX-BUSY	B05C	V-SYNC-VGA	B07B
MP-BOUT-7	B04B	NAND-AD(2)	B05A	PNX-MDATA-13	B04D	SCL-UP-VIP	B05E	TUN-VIPER-TX-CLKN	B04C	Y	B07B
MP-BOUT-7	B06	NAND-AD(2)	B05E	PNX-MDATA-14	B04D	SC-STANDBY	B03A	TUN-VIPER-TX-CLKN	B05C	Y	B07C
MP-BOUT-8	B04B	NAND-AD(3)	B05A	PNX-MDATA-15	B04D	SDA-DMA	B02A	TUN-VIPER-TX-CLKP	B04C	Y1	B07B
MP-BOUT-8	B06	NAND-AD(3)	B05E	PNX-MDATA-2	B04D	SDA-DMA	B03A	TUN-VIPER-TX-CLKP	B05C	Y1	B07C
MP-BOUT-9	B04B	NAND-AD(4)	B05A	PNX-MDATA-3	B04D	SDA-DMA	B03B	TUN-VIPER-TX-DATA0	B04C		
MP-BOUT-9	B06	NAND-AD(4)	B05E	PNX-MDATA-4	B04D	SDA-DMA	B04E	TUN-VIPER-TX-DATA0	B05C		
MP-CLK	B06	NAND-AD(5)	B05A	PNX-MDATA-5	B04D	SDA-DMA	B05A	TUN-VIPER-TX-DATA1	B04C		
MP-CLKOUT	B04B	NAND-AD(5)	B05E	PNX-MDATA-6	B04D	SDA-I2C4	B04G	TUN-VIPER-TX-DATA1	B05C		
MP-CLKOUT	B06	NAND-AD(6)	B05A	PNX-MDATA-7	B04D	SDA-I2C4	B05A	TUN-VIPER-TX-DATA10	B04C		
MP-DE	B06	NAND-AD(6)	B05E	PNX-MDATA-8	B04D	SDA-MM	B05A	TUN-VIPER-TX-DATA10	B05C		
MP-FF	B06	NAND-AD(7)	B05A	PNX-MDATA-9	B04D	SDA-MM	B06	TUN-VIPER-TX-DATA11	B04C		
MP-G0	B06	NAND-AD(7)	B05E	PNX-MDQM-0	B04D	SDA-MM	B07B	TUN-VIPER-TX-DATA11	B05C		
MP-G1	B06	NAND-ALE	B05A	PNX-MDQM-1	B04D	SDA-MM	B07E	TUN-VIPER-TX-DATA12	B04C		
MP-G2	B06	NAND-ALE	B05E	PNX-MDQS-0	B04D	SDA-MOP	B04G	TUN-VIPER-TX-DATA12	B05C		
MP-G3	B06	NAND-CLE	B05A	PNX-MDQS-1	B04D	SDA-MOP	B06	TUN-VIPER-TX-DATA13	B04C		
MP-G4	B06	NAND-CLE	B05E	PNX-MRAS	B04D	SDA-UP-SW	B04E	TUN-VIPER-TX-DATA13	B05C		
MP-G5	B06	NAND-D(10)	B05A	PNX-MWE	B04D	SDA-UP-VIP	B04E	TUN-VIPER-TX-DATA14	B04C		
MP-G6	B06	NAND-D(10)	B05E	POD-MODE	B01B	SDA-UP-VIP	B05A	TUN-VIPER-TX-DATA14	B05C		
MP-G7	B06	NAND-D(11)	B05A	POD-MODE	B04E	SDA-UP-VIP	B05E	TUN-VIPER-TX-DATA15	B04C		
MP-G8	B06	NAND-D(11)	B05E	POWER-DOWN_BOLT-ON	B03A	SDM	B04E	TUN-VIPER-TX-DATA15	B05C		
MP-G9	B06	NAND-D(12)	B05A	POWERDOWN-HDMI	B05A	SOUND-ENABLE	B05A	TUN-VIPER-TX-DATA2	B04C		
MP-GOUT-0	B04B	NAND-D(12)	B05E	POWERDOWN-HDMI	B07B	SOUND-ENABLE	B08A	TUN-VIPER-TX-DATA2	B05C		
MP-GOUT-0	B06	NAND-D(13)	B05A	POWER-OK-DISPLAY	B04E	SOUND-ENABLE-VPR	B05A	TUN-VIPER-TX-DATA3	B04C		
MP-GOUT-1	B04B	NAND-D(13)	B05E	PR	B07B	SPDIF-HDMI	B05C	TUN-VIPER-TX-DATA3	B05C		
MP-GOUT-1	B06	NAND-D(14)	B05A	PR	B07C	SPDIF-HDMI	B07B	TUN-VIPER-TX-DATA4	B04C		
MP-GOUT-2	B04B	NAND-D(14)	B05E	PR1	B07B	SPDIF-OUT1	B05C	TUN-VIPER-TX-DATA4	B05C		
MP-GOUT-2	B06	NAND-D(15)	B05A	PR1	B07C	SPDIF-OUT1	B07C	TUN-VIPER-TX-DATA5	B04C		
MP-GOUT-3	B04B	NAND-D(15)	B05E	PROT-AUDIOSUPPLY	B04E	SPI-CLK	B04E	TUN-VIPER-TX-DATA5	B05C		
MP-GOUT-3	B06	NAND-D(8)	B05A	PROT-AUDIOSUPPLY	B08A	SPI-CSB	B04E	TUN-VIPER-TX-DATA6	B04C		
MP-GOUT-4	B04B	NAND-D(9)	B05E	PROT-AUDIOSUPPLY	B08B	SPI-PROG	B04E	TUN-VIPER-TX-DATA6	B05C		
MP-GOUT-4	B06	NAND-D(9)	B05A	PSEN	B04E	SPI-GDI	B04E	TUN-VIPER-TX-DATA7	B04C		
MP-GOUT-5	B04B	NAND-D(9)	B05E	RC	B03A	SPI-SDO	B04E	TUN-VIPER-TX-DATA7	B05C		
MP-GOUT-5	B06	NAND-RBY	B05A	RC	B04E	SPI-WP	B04E	TUN-VIPER-TX-DATA8	B04C		
MP-GOUT-6	B04B	NAND-RBY	B05E	RC	B05F	STANDBY	B01B	TUN-VIPER-TX-DATA8	B05C		
MP-GOUT-6	B06	NAND-REn	B05A	RESET-AUDIO	B04A	STANDBY	B05F	TUN-VIPER-TX-DATA9	B04C		
MP-GOUT-7	B04B	NAND-REn	B05E	RESET-AUDIO	B04E	STBY-WP-NAND-FLASH	B04E	TUN-VIPER-TX-DATA9	B05C		
MP-GOUT-7	B06	NAND-SEL	B05A	RESET-FE-MAIN	B02A	STBY-WP-NAND-FLASH	B05E	TXD	B01B		
MP-GOUT-8	B04B	NAND-SEL	B05E	RESET-FE-MAIN	B05A	STROBE1N-MAIN	B03A	TXD	B05E		
MP-GOUT-8	B06	NAND-WEn	B05A	RESET-MAIN-NVM	B04E	STROBE1N-MAIN	B04A	TXD	B07D		
MP-GOUT-9	B04B	NAND-WEn	B05E	RESET-MAIN-NVM	B04E	STROBE1P-MAIN	B03A	TXD-UP	B04E		
MP-HS	B06	ON-MODE	B04E	RESET-MIPS	B04E	STROBE1P-MAIN	B04A	TXD-UP	B05E		
MP-OUT-DE	B04B	ON-MODE	B04G	RESET-MIPS	B05A	STROBE2N-MAIN	B03A	TXD-VIPER	B05A		
MP-OUT-DE	B06	ON-MODE	B05F	RESET-PNX2015	B04E	STROBE2N-MAIN	B04A	TXD-VIPER	B05E		
MP-OUT-DE	B04B	P0_6	B04E	RESET-STBY	B04E	STROBE2P-MAIN	B03A	TXPNXA-	B04B		
MP-OUT-DE	B06	P3_2	B04E	RESET-STBY	B05F	STROBE2P-MAIN	B04A	TXPNXA-	B04G		
MP-OUT-FFIELD	B04B	P4_4	B04E	RESET-SYSTEM	B01B	STROBE3N-MAIN	B03A	TXPNXA+	B04B		
MP-OUT-FFIELD	B06	P50	B04E	RESET-SYSTEM	B04A	STROBE3N-MAIN	B04A	TXPNXA+	B04G		
MP-OUT-HS	B04B	P50-HDMI	B04E	RESET-SYSTEM	B05A	STROBE3P-MAIN	B03A	TXPNXB-	B04B		
MP-OUT-HS	B04G	P50-HDMI	B07E	RESET-SYSTEM	B07E	STROBE3P-MAIN	B04A	TXPNXB-	B04G		
MP-OUT-HS	B06	PARX-DDC-SCL	B07E	RIGHT-SPEAKER	B08A	SUPPLY-FAULT	B01A	TXPNXB+	B04B		
MP-OUT-VS	B04B	PARX-DDC-SDA	B07E	RIGHT-SPEAKER	B08B	SUPPLY-FAULT	B04E	TXPNXB+	B04G		
MP-OUT-VS	B04G	PB	B07B	RX0-	B07B	TEMP-SENSOR	B04E	TXPNXC-	B04B		
MP-OUT-VS	B06	PB	B07C	RX0-	B07E	TUN-VIPER-RX-BUSY	B04C	TXPNXC-	B04G		
MP-R0	B06	PB1	B07B	RX0+	B07B	TUN-VIPER-RX-BUSY	B05C	TXPNXC+	B04B		
MP-R1	B06	PBRX-DDC-SCL	B07C	RX0+	B07E	TUN-VIPER-RX-CLKP	B04C	TXPNXC+	B04G		
MP-R2	B06	PBRX-DDC-SDA	B07E	RX1-	B07B	TUN-VIPER-RX-CLKP	B05C	TXPNXCLK-	B04B		
MP-R3	B06	PCI-CLK-VPR	B07E	RX1-	B07E	TUN-VIPER-RX-DATA0	B04C	TXPNXCLK-	B04G		
MP-R4	B06	PCI-INTA	B05A	RX1+	B07B	TUN-VIPER-RX-DATA0	B05C	TXPNXCLK+	B04B		
MP-R5	B06	PCI-REQ	B05A	RX1+	B07E	TUN-VIPER-RX-DATA1	B04C	TXPNXCLK+	B04G		
MP-R6	B06	PCI-REQ-A	B05A	RX2-	B07B	TUN-VIPER-RX-DATA1	B05C	TXPNXD-	B04B		
MP-R7	B06	PCI-REQ-B	B05A	RX2-	B07E	TUN-VIPER-RX-DATA10	B04C	TXPNXD-	B04G		
MP-R8	B06	PLL-1V2	B04F	RX2+	B07B	TUN-VIPER-RX-DATA10	B05C	TXPNXD+	B04B		
MP-R9	B06	PLL-3V3	B04F	RX2+	B07E	TUN-VIPER-RX-DATA11	B04C	TXPNXD+	B04G		
MP-ROUT-0	B04B	PLL-OUT	B05A	RXC-	B07B	TUN-VIPER-RX-DATA11	B05C	TXPNXE-	B04B		
MP-ROUT-0	B06	PNX-MA-0	B04D	RXC-	B07E	TUN-VIPER-RX-DATA12	B04C	TXPNXE-	B04G		
				RXC+	B07B	TUN-VIPER-RX-DATA12	B05C	TXPNXE+	B04B		

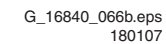
Layout Small Signal Board (Overview Top Side)



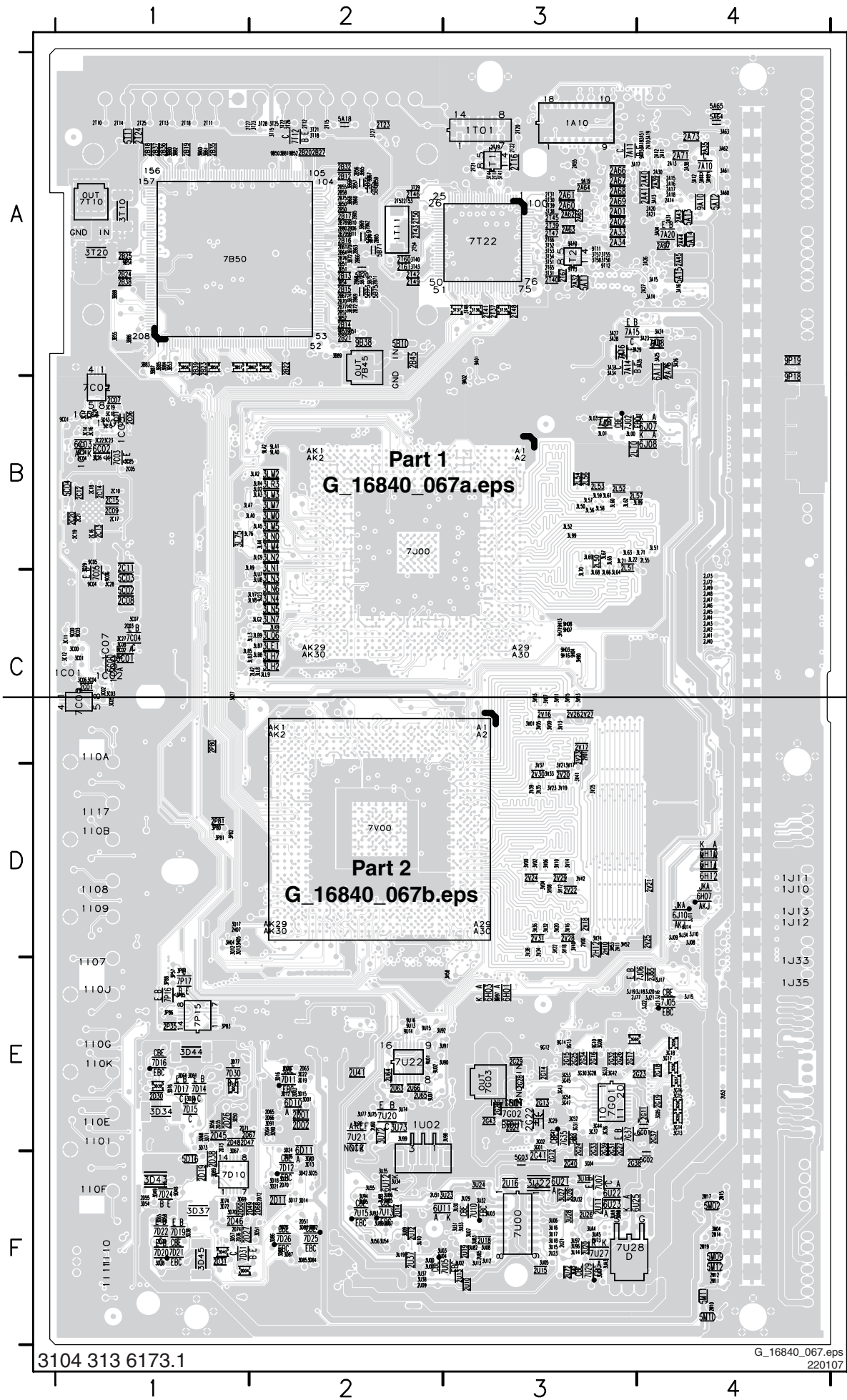
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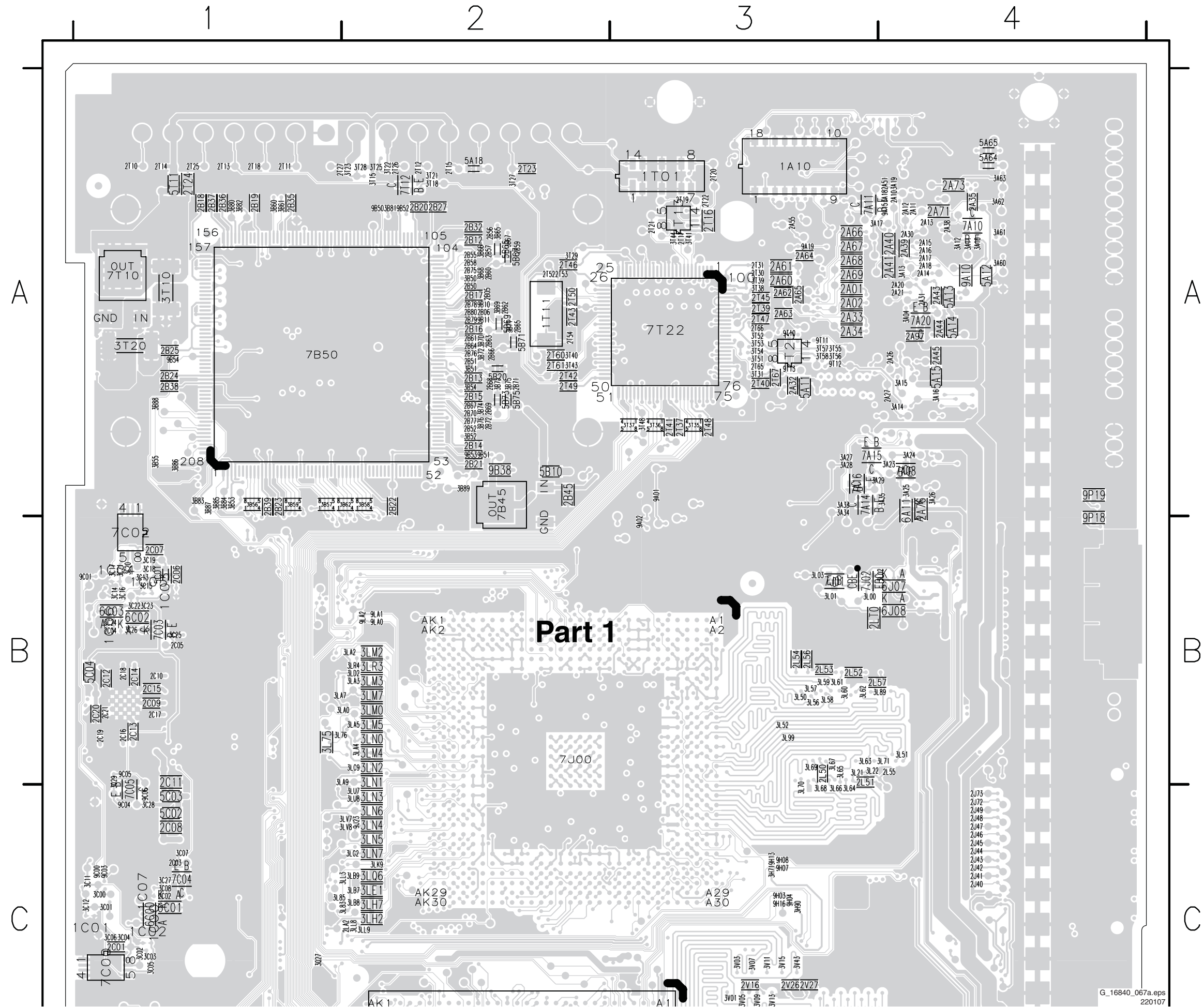


Layout Small Signal Board (Overview Bottom Side)



1A10 A3	2C06 B1	2LT0 B3	3A18 A4	3D44 E1	3L62 B3	3U03 F2	5A12 A4	7U15 F2
1T01 A2	2C07 B1	2M10 F4	3A19 A4	3D45 F1	3L63 B3	3U04 F2	5A13 A4	7U20 E2
1T11 A2	2C08 C1	2M11 F4	3A23 A4	3D49 F1	3L64 C3	3U05 F3	5A14 A4	7U21 E2
1U02 E2	2C09 B1	2M12 F4	3A24 A4	3D50 E1	3L65 B3	3U06 F3	5A15 A4	7U22 E2
2A01 A3	2C10 B1	2M14 F4	3A25 A4	3D51 F2	3L66 C3	3U07 F3	5A18 A2	7U27 F3
2A02 A3	2C11 B1	2M15 F4	3A26 A4	3D54 F1	3L67 B3	3U08 F3	5A64 A4	7U28 F4
2A10 A4	2C12 B1	2M17 F4	3A27 A3	3D56 E1	3L68 C3	3U09 F2	5A65 A4	7U29 F3
2A11 A4	2C13 B1	2M19 F4	3A28 A3	3D57 F1	3L69 B3	3U10 F2	5B10 A2	7V00 D2
2A12 A4	2C14 B1	2P35 E1	3A29 A3	3D58 F1	3L70 C3	3U11 F3	5B20 A2	9A01 A3
2A13 A4	2C15 B1	2P80 C1	3A33 A3	3D64 E1	3L71 B4	3U12 F3	5B65 A2	9A02 B3
2A14 A4	2C16 B1	2P81 D1	3A34 A3	3D65 F1	3L75 B1	3U13 F3	5B67 A2	9A10 A4
2A15 A4	2C17 B1	2T10 A1	3A35 A4	3D67 E1	3L76 B1	3U14 F3	5B69 A2	9A15 A4
2A16 A4	2C18 B1	2T11 A1	3A60 A4	3D68 E1	3L83 C2	3U15 F3	5B71 A2	9A19 A3
2A17 A4	2C19 B1	2T12 A2	3A61 A4	3D69 F1	3L85 C1	3U16 F3	5B73 A2	9B10 A2
2A18 A4	2C20 B1	2T13 A1	3A62 A4	3D70 F1	3L89 B4	3U17 F3	5B75 A2	9B11 A2
2A20 A4	2C21 B1	2T14 A1	3A63 A4	3D71 E1	3L99 B3	3U18 F3	5C01 B1	9B38 A2
2A21 A4	2D01 E2	2T15 A2	3B50 A2	3D72 F1	3LA0 B2	3U19 F2	5C02 C1	9B50 A2
2A26 A4	2D02 E2	2T16 A3	3B51 A2	3D73 E1	3LA2 B2	3U22 F3	5C03 C1	9B51 A2
2A27 A4	2D03 E2	2T17 A3	3B52 A2	3D74 F1	3LA3 B2	3U23 F3	5C04 B1	9B52 A2
2A30 A4	2D11 F2	2T18 A1	3B53 A1	3D75 F2	3LA4 B2	3U24 F3	5D16 F1	9B53 A2
2A31 A4	2D19 F1	2T19 A1	3B54 A2	3D76 E1	3LA5 B2	3U26 F3	5G02 F4	9B54 A1
2A32 A3	2D26 F1	2T20 A3	3B55 A1	3D77 E1	3LA7 B1	3U27 F3	5G03 F3	9C00 C1
2A33 A3	2D27 F1	2T21 A3	3B56 A1	3D78 F1	3LA9 B2	3U28 F3	5M02 F4	9C01 B1
2A34 A3	2D30 E1	2T22 A3	3B57 A1	3D79 F1	3LB7 C2	3U29 F3	5M09 F4	9C03 C1
2A35 A4	2D31 F1	2T23 A2	3B58 A2	3D81 E1	3LB8 C2	3U30 F3	5M10 F4	9C04 C1
2A38 A4	2D35 E1	2T24 A1	3B59 A1	3D82 F2	3LB9 C2	3U31 F3	5M11 F4	9C05 B1
2A39 A4	2D36 F1	2T25 A1	3B60 A1	3D83 F2	3LC9 B2	3U32 F3	5M12 F4	9C06 C1
2A40 A4	2D38 F1	2T26 A2	3B61 A1	3D84 F2	3LD2 B2	3U33 F3	5T11 A1	9D03 E1
2A41 A4	2D45 E1	2T27 A1	3B62 A2	3D85 F2	3LE1 C2	3U34 F2	6A11 A4	9D04 F1
2A43 A4	2D46 F1	2T30 A3	3B65 A2	3D86 F2	3LG2 C2	3U35 F2	6C00 C1	9D48 F1
2A44 A4	2D47 E1	2T31 A3	3B66 A2	3D87 F2	3LH2 C2	3U37 F2	6C01 C1	9G10 E3
2A45 A4	2D48 E1	2T37 A3	3B67 A2	3D88 F2	3LH7 C2	3U38 F2	6C02 B1	9G12 E3
2A51 A4	2D49 F2	2T39 A3	3B68 A2	3D89 F1	3LK9 C2	3U54 F2	6C03 B1	9G13 E3
2A55 A3	2D50 F1	2T40 A3	3B69 A2	3D90 E2	3LL3 C2	3U55 F2	6D10 E2	9G14 E3
2A60 A3	2D51 F2	2T41 A3	3B70 A2	3D91 E2	3LL8 C2	3U56 F2	6D11 E2	9H03 C3
2A61 A3	2D55 F1	2T42 A2	3B71 A2	3G01 E3	3LL9 C2	3U72 E2	6G01 E4	9H04 C3
2A62 A3	2D63 E2	2T43 A2	3B72 A2	3G02 E3	3LM0 B2	3U73 E2	6H01 E3	9H07 C3
2A63 A3	2D64 E2	2T45 A3	3B73 A2	3G03 E3	3LM2 B2	3U74 E2	6H03 E3	9H08 C3
2A64 A3	2D65 E2	2T46 A2	3B74 A2	3G04 F3	3LM3 B2	3U75 E2	6H07 D4	9H13 C3
2A65 A3	2D66 E2	2T47 A3	3B75 A2	3G05 E4	3LM4 B2	3U76 E2	6H10 D4	9H16 C3
2A66 A3	2D67 E1	2T48 A3	3B76 A2	3G08 E3	3LM5 B2	3U77 E2	6H11 D4	9J21 E4
2A67 A3	2D68 F2	2T49 A2	3B80 A1	3G13 E4	3LM7 B2	3U82 F3	6H12 D4	9J23 C2
2A68 A3	2D70 F2	2T50 A2	3B81 A2	3G14 E4	3LN0 B2	3U83 F3	6J07 B4	9J34 D4
2A69 A3	2D71 E1	2T52 A2	3B82 A1	3G15 E4	3LN1 B2	3U85 F2	6J08 B4	9LA0 B2
2A71 A4	2D72 F2	2T53 A2	3B83 A1	3G16 E4	3LN2 B2	3U86 F2	6J10 D4	9LA1 B2
2A73 A4	2D73 A1	2T54 A2	3B84 A1	3G17 E4	3LN3 C2	3U87 F2	6U11 F2	9LA2 B2
2A76 A4	2D74 F1	2T60 A2	3B85 A1	3G18 E4	3LN4 C2	3U88 F2	6U12 F2	9P18 B4
2A97 A4	2G11 E4	2T61 A2	3B86 A1	3G28 E3	3LN5 C2	3U89 F2	6U21 F3	9P19 A4
2B05 A2	2G12 F3	2T65 A3	3B87 A1	3G29 E3	3LN6 C2	3U90 E3	6U22 F3	9T10 A3
2B06 A2	2G13 E3	2T66 A3	3B88 A1	3G30 E3	3LN7 C2	3U91 E3	6U23 F3	9T11 A3
2B12 A2	2G14 E3	2T67 A3	3B89 A2	3G31 E3	3LQ6 C2	3U92 E2	6U25 F4	9T12 A3
2B13 A2	2G15 E3	2U09 F2	3C00 C1	3G33 E3	3LR3 B2	3U93 F2	7A08 A4	9T13 A3
2B14 A2	2G16 E3	2U10 F3	3C01 C1	3G36 E3	3LR4 B2	3U94 F2	7A10 A4	9U01 E2
2B15 A2	2G17 E3	2U11 F3	3C02 C1	3G37 E3	3LU7 C2	3U95 F2	7A11 A3	9U02 E2
2B16 A2	2G18 E4	2U12 F2	3C03 C1	3G42 E3	3LU8 C2	3U96 F3	7A14 A3	9U03 F3
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2B19 A1	2G21 E3	2U15 F3	3C06 C1	3G45 E3	3M04 F4	3U99 E2	7A20 A4	9U14 E2
2B20 A2	2G22 E3	2U16 F3	3C07 C1	3G47 E3	3P57 E1	3UA1 F3	7B45 A2	9U15 E2
2B21 A2	2G23 E4	2U18 F3	3C08 C1	3G52 E3	3P80 D1	3UA2 F3	7B50 A1	9U16 E2
2B22 A2	2G24 E3	2U19 F3	3C11 C1	3G53 E3	3P81 D1	3UA3 F3	7C00 C1	
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2B35 A1	2G31 E3	2U32 F3	3C17 B1	3G59 E4	3P88 E1	3V01 C3	7D11 E2	
2B36 A1	2G32 E3	2U37 F2	3C18 B1	3G60 E3	3Q12 D1	3V02 D3	7D12 F2	
2B37 A1	2G33 E3	2U41 E2	3C19 B1	3H04 D1	3Q13 D1	3V03 C3	7D14 E1	
2B38 A1	2G34 E3	2U52 E4	3C20 B1	3H05 D1	3Q17 D1	3V04 D3	7D15 E1	
2B39 A1	2G37 E4	2U60 E2	3C21 B1	3H52 D3	3Q27 C1	3V05 C3	7D16 E1	
2B45 A2	2G38 F3	2U63 E2	3C22 B1	3H53 D3	3T10 A1	3V06 D3	7D17 E1	
2B50 A2	2G39 E3	2U64 E2	3C23 B1	3H58 E3	3T15 A2	3V07 C3	7D19 F1	
2B51 A2	2G40 F3	2U65 E2	3C24 B1	3H71 C3	3T18 A2	3V08 D3	7D20 F1	
2B52 A2	2G41 F3	2U66 E2	3C25 B1	3H90 C3	3T20 A1	3V09 C3	7D21 F1	
2B55 A2	2G42 E3	2U72 F3	3C26 B1	3H97 E3	3T21 A2	3V10 D3	7D22 F1	
2B56 A2	2G43 E3	2U73 F3	3C27 C1	3J08 D4	3T22 A2	3V11 C3	7D24 F1	
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2B58 A2	2H10 D3	2V00 D3	3C29 B1	3J10 D4	3T25 A2	3V13 C3	7D26 F2	
2B59 A2	2H11 D3	2V01 C3	3D01 E2	3J11 D4	3T27 A2	3V14 D3	7D30 E2	
2B60 A2	2H12 D3	2V16 C3	3D10 F2	3J14 D4	3T28 A2	3V15 C3	7D31 F2	
2B61 A2	2J40 C4	2V17 C3	3D12 E2	3J15 E4	3T29 A2	3V16 D3	7G01 E3	
2B62 A2	2J41 C4	2V18 D3	3D13 F2	3J16 E4	3T31 A3	3V17 D3	7G02 E3	
2B63 A2	2J42 C4	2V20 D3	3D14 F2	3J17 E4	3T35 A3	3V18 D3	7G03 E3	
2B64 A2	2J43 C4	2V21 D4	3D15 E2	3J18 E4	3T36 A3	3V19 D3	7G35 E3	
2B65 A2	2J44 C4	2V22 D3	3D16 E2	3J19 E3	3T37 A3	3V20 D3	7G37 E4	
2B66 A2	2J45 C4	2V23 C3	3D17 F2	3J20 E4	3T38 A3	3V21 D3	7J00 C2	
2B67 A2	2J46 C4	2V24 D3	3D18 F2	3J21 E4	3T39 A3	3V22 D3	7J01 B3	
2B68 A2	2J47 C4	2V25 D4	3D19 E2	3J22 E4	3T40 A2	3V23 D3	7J02 B3	
2B69 A2	2J48 C4	2V26 C3	3D20 E2	3L00 B3	3T41 A3	3V24 D3	7J05 E4	
2B70 A2	2J49 C4	2V27 C3	3D21 F2	3L01 B3	3T43 A2	3V25 D3	7J06 E3	
2B71 A2	2J55 E4	2V28 D3	3D22 E2	3L02 B4	3T44 A3	3V32 D3	7P15 E1	
2B72 A2	2J72 C4	2V29 D3	3D23 F2	3L03 B3	3T48 A3	3V33 D3	7P16 E1	
2B75 A2	2J73 C4	2V30 D3	3D24 E2	3L21 B3	3T51 A3	3V34 D3	7P17 E1	
2B76 A2	2J77 E3	2V31 D3	3D25 F2	3L22 B3	3T52 A3	3V35 D3	7T10 A1	
2B77 A2	2L50 B3	3A04 A4	3D26 F2	3L50 B3	3T53 A3	3V36 D3	7T12 A2	
2B78 A2	2L51 B3	3A10 A4	3D34 E1	3L51 B4	3T54 A3	3V37 D3	7T13 A3	
2B79 A2	2L52 B3	3A11 A4	3D35 E1	3L52 B3	3T55 A3	3V38 D3	7T22 A3	
2B80 A2	2L53 B3	3A12 A4	3D37 F1	3L56 B3	3T56 A3	3V39 D3	7T23 A3	
2C01 C1	2L54 B3	3A13 A4	3D38 F1	3L57 B3	3T57 A3	3V40 D3	7U00 F3	
2C02 C1	2L55 B4	3A14 A4	3D39 E1	3L58 B3	3T58 A3	3V41 D3	7U05 F3	
2C03 C1	2L56 B3	3A15 A4	3D40 F1	3L59 B3	3U00 F2	3V42 D3	7U07 F3	
2C04 B1	2L57 B3	3A16 A4	3D42 F2	3L60 B3	3U01 F2	3V43 C3	7U10 F3	
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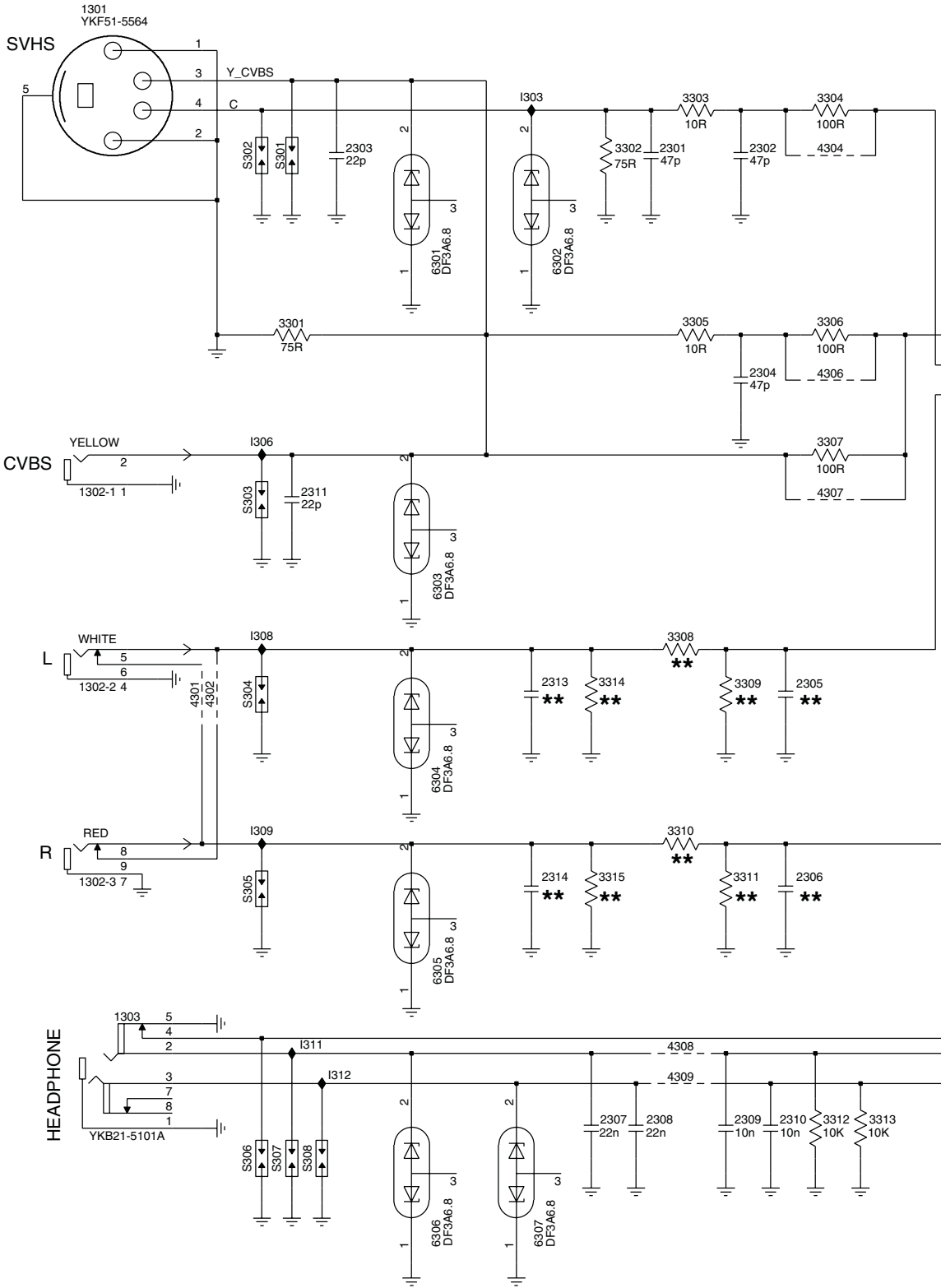
Layout Small Signal Board (Part 1 Bottom Side)



Side A/V Panel

D SIDE FACING SIDE AV

D



TO 1M36 OF BJ/EBJ SSB

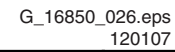
TO 1H01 OF BJ SSB /
TO 1M60 OF EBJ SSB

DIVERSITY TABLE

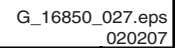
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2305	100p	100p	1n
2306	100p	100p	1n
2313	NA	680p	1n
2314	NA	680p	1n
3314	NA	33K	NA
3315	NA	33K	NA
3308	100R	1K	150R
3310	100R	1K	150R
3309	100K	NA	33K
3311	100K	NA	33K

- 1301 A1
- 1302-1 C1
- 1302-2 D1
- 1302-3 E1
- 1303 E1
- 1304 B9
- 1308 D9
- 1309 D7
- 1310 D9
- 2301 A4
- 2302 A4
- 2303 A2
- 2304 B4
- 2305 D4
- 2306 E4
- 2307 F4
- 2308 F4
- 2309 F4
- 2310 F4
- 2311 C2
- 2312 D8
- 2313 D3
- 2314 E3
- 3301 B2
- 3302 A4
- 3303 A4
- 3304 A5
- 3305 B4
- 3306 B5
- 3307 C5
- 3308 D4
- 3309 D4
- 3310 E4
- 3311 E4
- 3312 F5
- 3313 F5
- 3314 D4
- 3315 E4
- 4301 D2
- 4302 D2
- 4303 E8
- 4304 A5
- 4306 B5
- 4307 C5
- 4308 F4
- 4309 F4
- 4310 E7
- 4311 E7
- 5300 D7
- 6301 B3
- 6302 B3
- 6303 C3
- 6304 D3
- 6305 E3
- 6306 F3
- 6307 F3
- I303 A3
- I306 C2
- I308 D2
- I309 E2
- I311 F2
- I312 F2
- I314 B7
- I315 B7
- I316 B7
- I317 B7
- I318 C7
- I319 C7
- I320 C7
- I321 B9
- I325 D8
- I326 D8
- I327 E8
- I328 E8
- I330 D7
- I331 D7
- I332 E7
- S301 A2
- S302 A2
- S303 C2
- S304 D2
- S305 E2
- S306 F2
- S307 F2
- S308 F2
- S310 E8
- S311 E8
- S312 E8

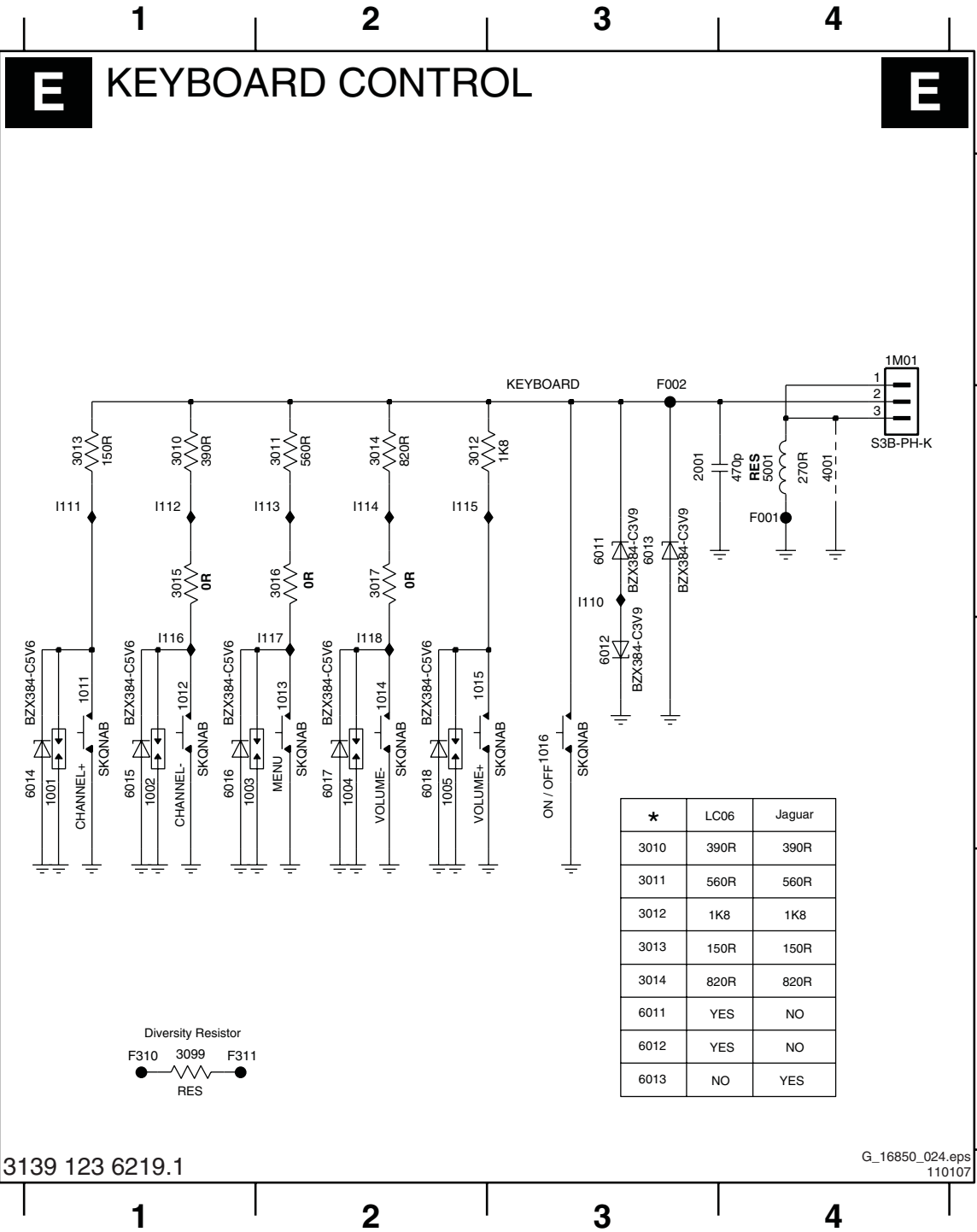
1301	A1	1302	A2	1303	A3	1304	A2	1308	A4	1309	A3	1310	A3
------	----	------	----	------	----	------	----	------	----	------	----	------	----



2301	A4	2307	A2	2313	A3	3305	A3	3311	A3	4302	A3	4309	A2	6303	A4
2302	A4	2308	A2	2314	A3	3306	A3	3312	A2	4303	A1	4310	A1	6304	A3
2303	A4	2309	A2	3301	A4	3307	A3	3313	A2	4304	A4	4311	A1	6305	A2
2304	A3	2310	A2	3302	A4	3308	A3	3314	A3	4306	A3	5300	A2	6306	A2
2305	A3	2311	A4	3303	A4	3309	A3	3315	A3	4307	A3	6301	A4	6307	A2
2306	A3	2312	A1	3304	A4	3310	A3	4301	A3	4308	A2	6302	A4		



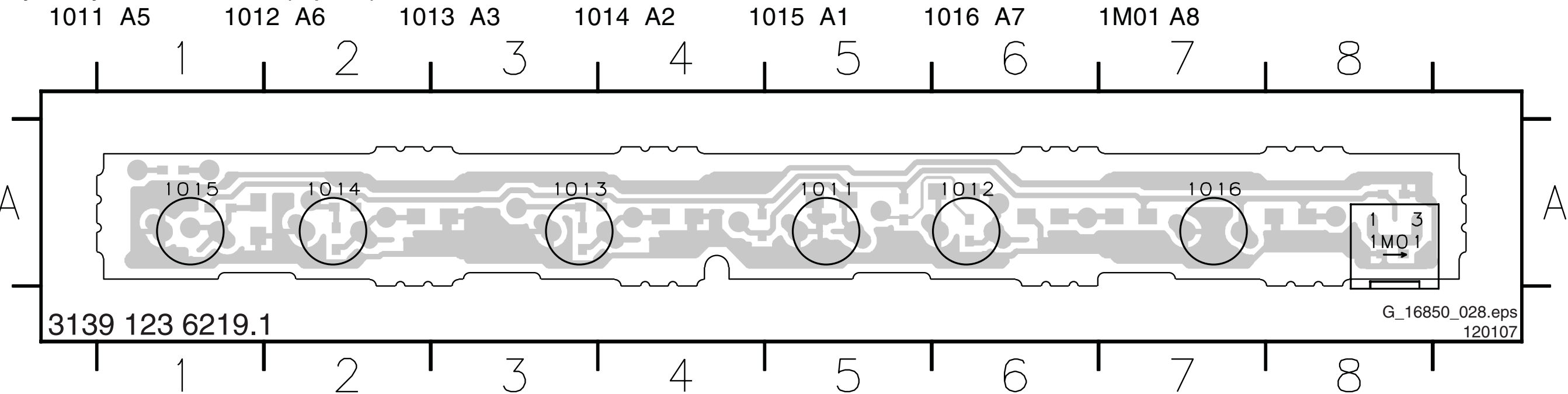
Keyboard Control Panel



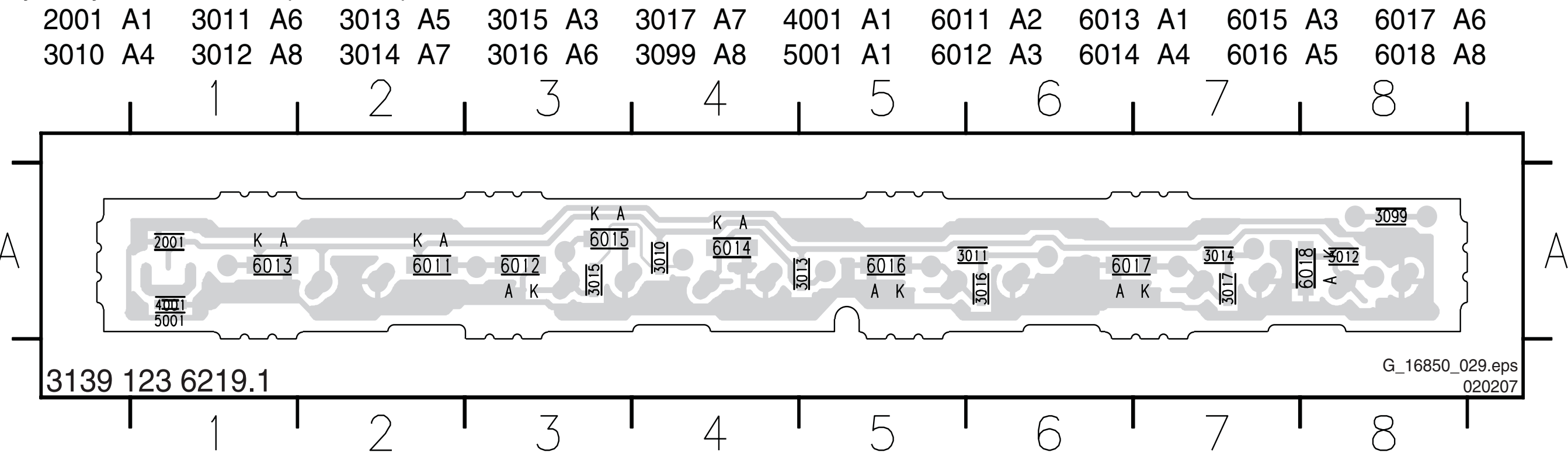
Personal Notes:

- 1001 C1
- 1002 C1
- 1003 C1
- 1004 C2
- 1005 C2
- 1011 C1
- 1012 C1
- 1013 C2
- 1014 C2
- 1015 C2
- 1016 C3
- 1M01 A4
- 2001 B3
- 3010 B1
- 3011 B2
- 3012 B2
- 3013 B1
- 3014 B2
- 3015 B1
- 3016 B2
- 3017 B2
- 3099 D1
- 4001 B4
- 5001 B4
- 6011 B3
- 6012 C3
- 6013 B3
- 6014 C1
- 6015 C1
- 6016 C1
- 6017 C2
- 6018 C2
- F001 B4
- F002 B3
- F310 D1
- F311 D1
- I110 B3
- I111 B1
- I112 B1
- I113 B2
- I114 B2
- I115 B2
- I116 C1
- I117 C2
- I118 C2

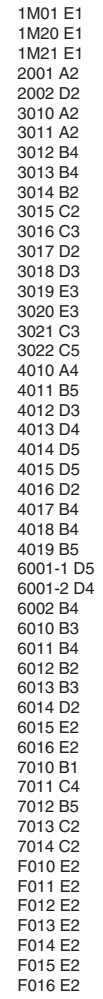
Layout Keyboard Control Panel (Top Side)



Layout Keyboard Control Panel (Bottom Side)

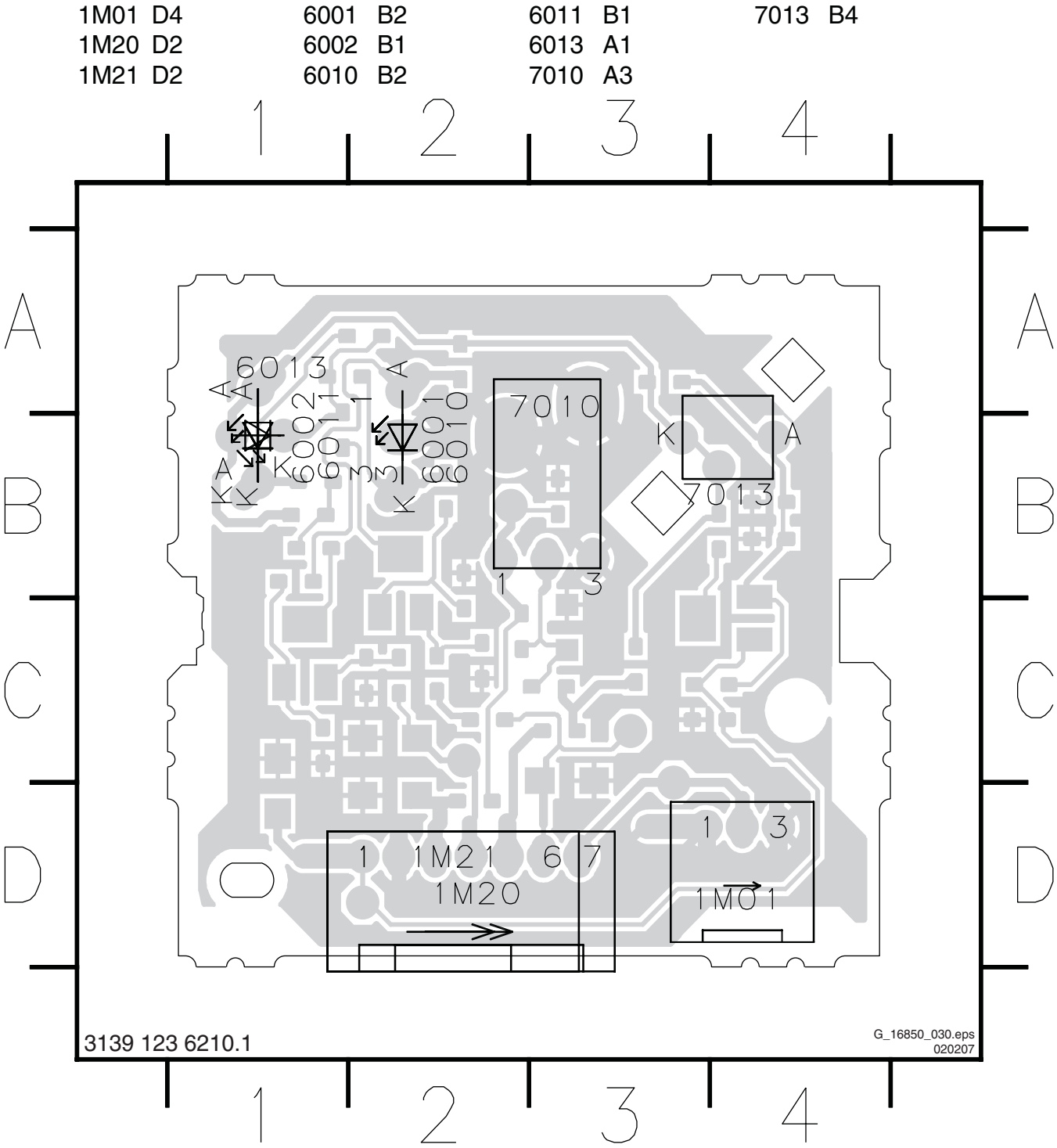


J IR/LED/LIGHT-SENSOR

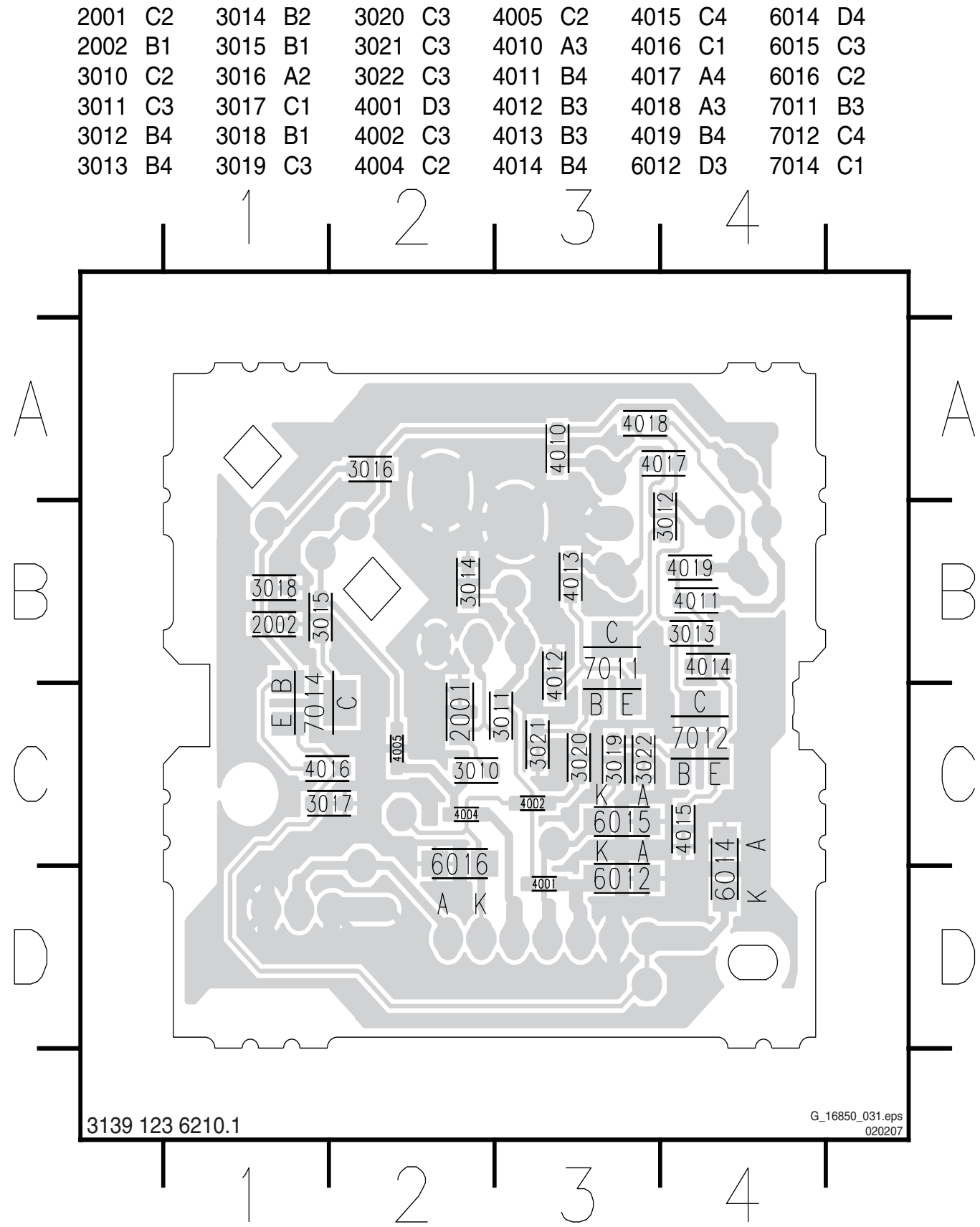


Personal Notes:

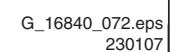
Layout Front IR / LED Panel (Top Side)



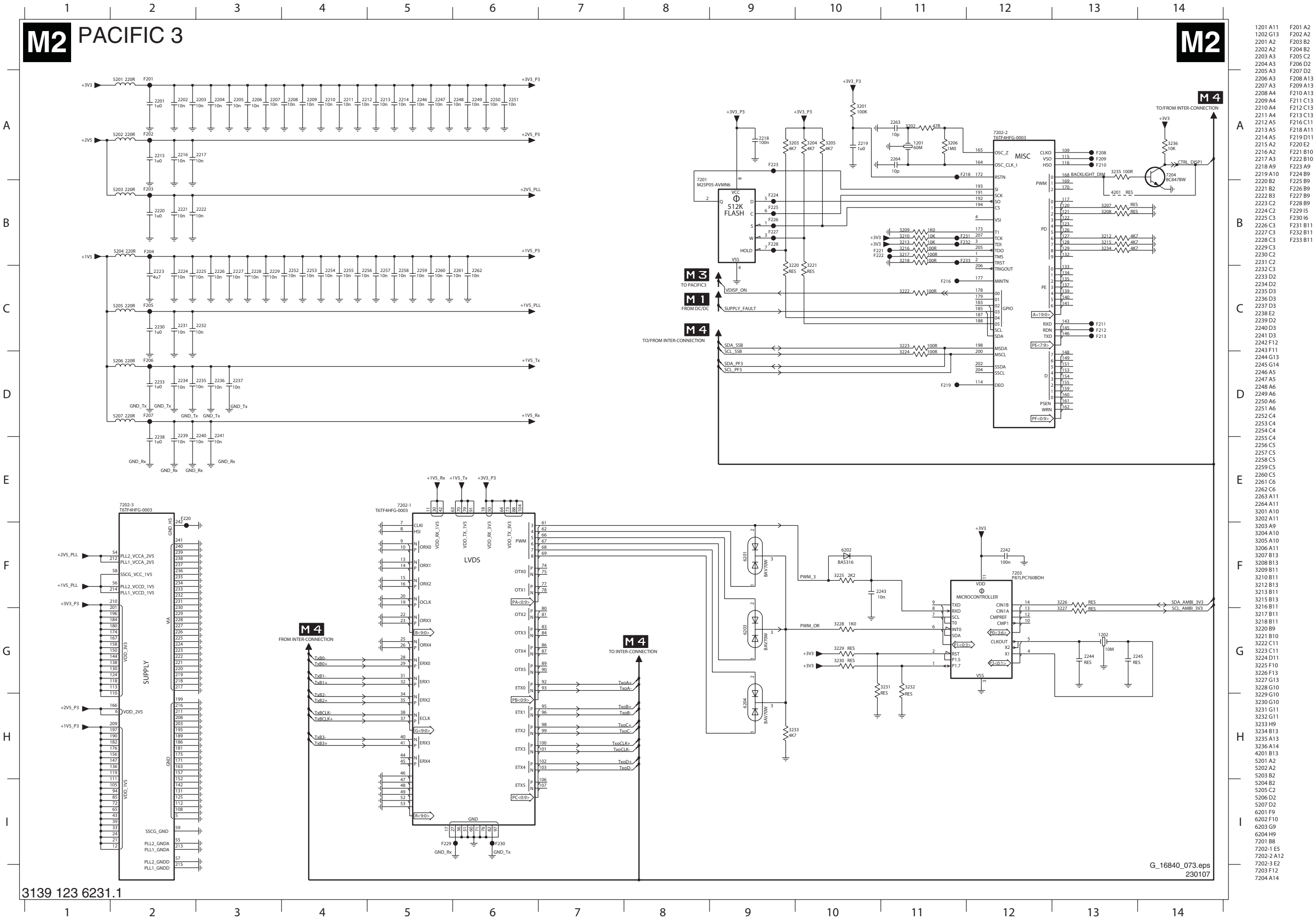
Layout Front IR / LED Panel (Bottom Side)



M1 DC/DC CONVERTER



AL Inter Connect Panel: Pacific 3



G_16840_073.eps
230107

AL Inter Connect Panel: Display Interface

M3 DISPLAY INTERFACE

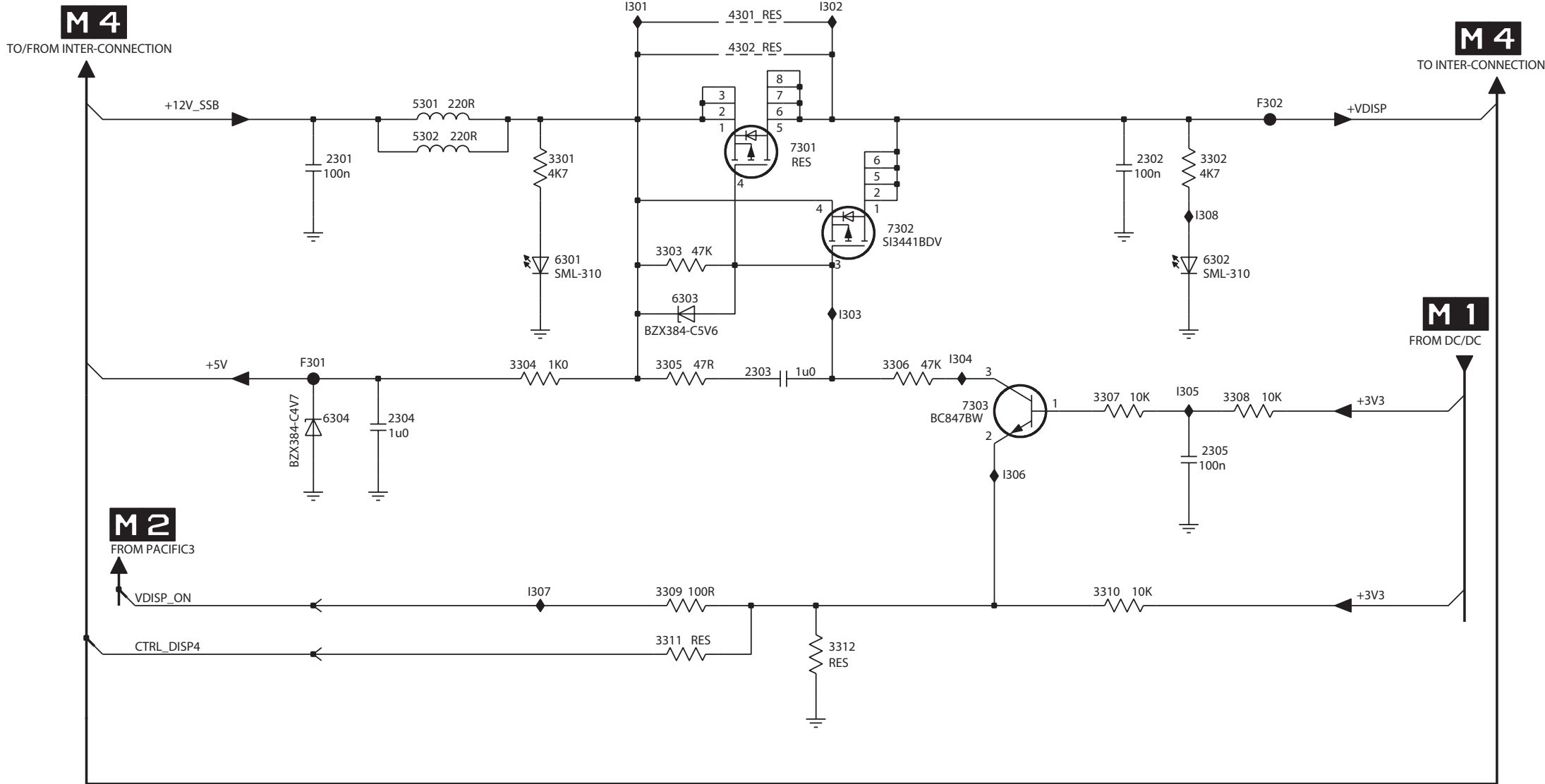
M3

A

B

C

D



- 2301 B2
- 2302 B6
- 2303 C4
- 2304 C3
- 2305 C6
- 3301 B3
- 3302 B6
- 3303 B4
- 3304 B3
- 3305 B4
- 3306 B5
- 3307 C6
- 3308 C6
- 3309 C4
- 3310 C6
- 3311 D4
- 3312 D4
- 4301 A4
- 4302 A4
- 5301 A3
- 5302 A3
- 6301 B3
- 6302 B6
- 6303 B4
- 6304 C2
- 7301 B4
- 7302 B5
- 7303 C5
- F301 B2
- F302 A6
- I301 A4
- I302 A4
- I303 B4
- I304 B5
- I305 C6
- I306 C5
- I307 C3
- I308 B6

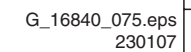
A

B

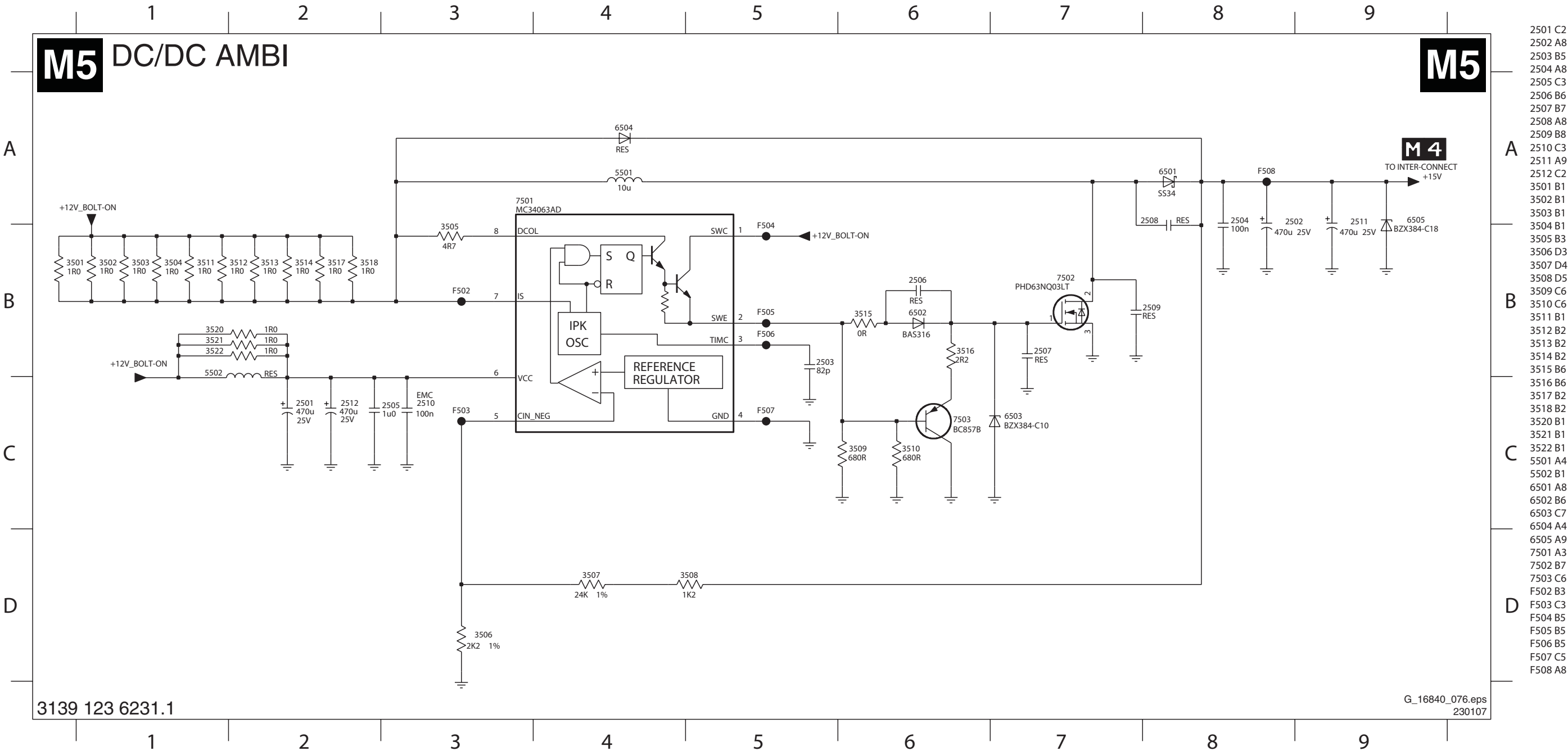
C

D

M4 INTER-CONNECTION

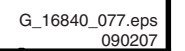


AL Inter Connect Panel: DC/DC Ambi



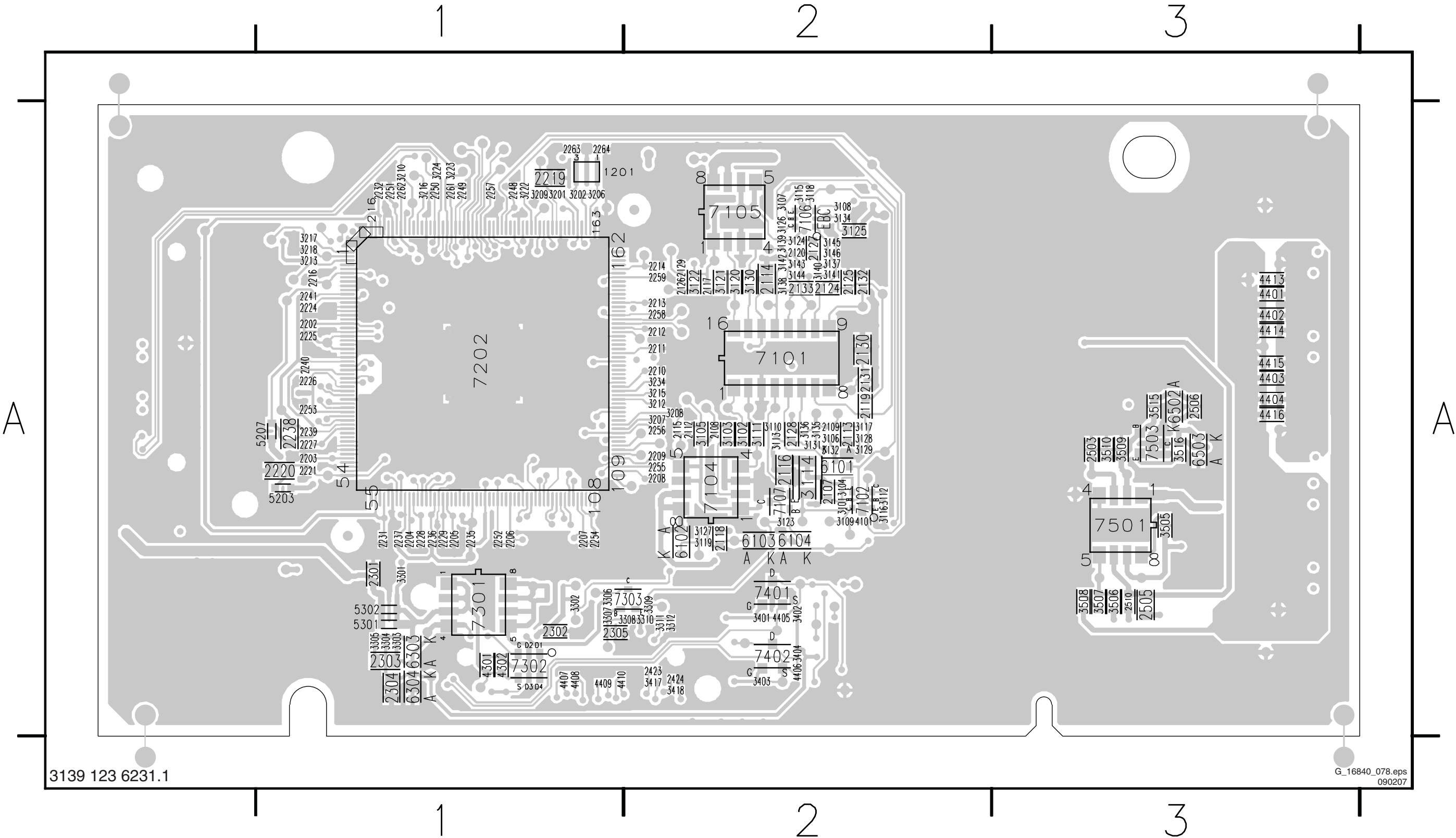
- 2501 C2
- 2502 A8
- 2503 B5
- 2504 A8
- 2505 C3
- 2506 B6
- 2507 B7
- 2508 A8
- 2509 B8
- 2510 C3
- 2511 A9
- 2512 C2
- 3501 B1
- 3502 B1
- 3503 B1
- 3504 B1
- 3505 B3
- 3506 D3
- 3507 D4
- 3508 D5
- 3509 C6
- 3510 C6
- 3511 B1
- 3512 B2
- 3513 B2
- 3514 B2
- 3515 B6
- 3516 B6
- 3517 B2
- 3518 B2
- 3520 B1
- 3521 B1
- 3522 B1
- 5501 A4
- 5502 B1
- 6501 A8
- 6502 B6
- 6503 C7
- 6504 A4
- 6505 A9
- 7501 A3
- 7502 B7
- 7503 C6
- F502 B3
- F503 C3
- F504 B5
- F505 B5
- F506 B5
- F507 C5
- F508 A8

1202	A3	1408	A3	1416	A2	2121	A2	2230	A3	2247	A3	2407	A3	2415	A3	2504	A1	3205	A3	3230	A3	3407	A3	3416	A2	3514	A1	4412	A2	5201	A2	6202	A3	7103	A3
1401	A1	1409	A3	1417	A3	2123	A2	2233	A3	2260	A3	2408	A3	2416	A3	2507	A1	3220	A3	3231	A3	3408	A3	3501	A1	3517	A1	5101	A2	5202	A3	6203	A3	7201	A3
1402	A1	1410	A3	2103	A2	2201	A3	2234	A3	2401	A3	2409	A3	2417	A3	2508	A1	3221	A3	3232	A3	3409	A3	3502	A1	3518	A1	5102	A2	5204	A2	6204	A3	7203	A3
1403	A2	1411	A3	2104	A2	2215	A3	2242	A3	2402	A3	2410	A3	2418	A3	2509	A1	3225	A3	3233	A3	3410	A3	3503	A1	3520	A1	5103	A2	5205	A3	6301	A3	7204	A3
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1406	A3	1414	A3	2110	A2	2222	A3	2245	A3	2405	A3	2413	A3	2501	A1	3203	A3	3228	A3	3405	A3	3413	A2	3512	A1	4201	A3	5106	A2	5502	A1	6504	A1		
1407	A3	1415	A3	2111	A2	2223	A3	2246	A3	2406	A3	2414	A3	2502	A1	3204	A3	3229	A3	3406	A3	3415	A2	3513	A1	4411	A2	5107	A2	6201	A3	6505	A1		



Layout AmbiLight Inter Connect Panel (Bottom Side)

1201 A1	2119 A2	2133 A2	2212 A2	2228 A1	2248 A1	2259 A2	2424 A2	3107 A2	3118 A2	3129 A2	3141 A2	3209 A1	3234 A2	3311 A2	3508 A3	4404 A3	5203 A1	6503 A3	7401 A2
2107 A2	2120 A2	2202 A1	2213 A2	2229 A1	2249 A1	2261 A1	2503 A3	3108 A2	3119 A2	3130 A2	3142 A2	3210 A1	3301 A1	3312 A2	3509 A3	4405 A2	5207 A1	7101 A2	7402 A2
2108 A2	2124 A2	2203 A1	2214 A2	2231 A1	2250 A1	2262 A1	2505 A3	3109 A2	3120 A2	3131 A2	3143 A2	3212 A2	3302 A1	3401 A2	3510 A3	4406 A2	5301 A1	7102 A2	7501 A3
2109 A2	2125 A2	2204 A1	2216 A1	2232 A1	2251 A1	2263 A1	2506 A3	3110 A2	3121 A2	3132 A2	3144 A2	3213 A1	3303 A1	3402 A2	3515 A3	4407 A1	5302 A1	7104 A2	7503 A3
2112 A2	2126 A2	2205 A1	2219 A1	2235 A1	2252 A1	2264 A1	2510 A3	3111 A2	3122 A2	3134 A2	3145 A2	3215 A2	3304 A1	3403 A2	3516 A3	4408 A1	6101 A2	7105 A2	
2113 A2	2127 A2	2206 A1	2220 A1	2236 A1	2253 A1	2301 A1	3101 A2	3112 A2	3123 A2	3135 A2	3146 A2	3216 A1	3305 A1	3404 A2	4101 A2	4409 A1	6102 A2	7106 A2	
2114 A2	2128 A2	2207 A1	2221 A1	2237 A1	2254 A1	2302 A1	3102 A2	3113 A2	3124 A2	3136 A2	3201 A1	3217 A1	3306 A1	3417 A2	4301 A1	4410 A1	6103 A2	7107 A2	
2115 A2	2129 A2	2208 A2	2224 A1	2238 A1	2255 A2	2303 A1	3103 A2	3114 A2	3125 A2	3137 A2	3202 A1	3218 A1	3307 A1	3418 A2	4302 A1	4413 A3	6104 A2	7202 A1	
2116 A2	2130 A2	2209 A2	2225 A1	2239 A1	2256 A2	2304 A1	3104 A2	3115 A2	3126 A2	3138 A2	3206 A1	3222 A1	3308 A2	3505 A3	4401 A3	4414 A3	6303 A1	7301 A1	
2117 A2	2131 A2	2210 A2	2226 A1	2240 A1	2257 A1	2305 A1	3105 A2	3116 A2	3127 A2	3139 A2	3207 A2	3223 A1	3309 A2	3506 A3	4402 A3	4415 A3	6304 A1	7302 A1	
2118 A2	2132 A2	2211 A2	2227 A1	2241 A1	2258 A2	2423 A2	3106 A2	3117 A2	3128 A2	3140 A2	3208 A2	3224 A1	3310 A2	3507 A3	4403 A3	4416 A3	6502 A3	7303 A2	



8. Alignments

Index of this chapter:

- 8.1 General Alignment Conditions
- 8.2 Hardware Alignments
- 8.3 Software Alignments
- 8.4 Option Settings

8.1 General Alignment Conditions

8.1.1 Start Conditions

Perform all electrical adjustments under the following conditions:

- Power supply voltage (depends on region):
 - AP-NTSC: 120 V_{AC} or 230 V_{AC} / 50 Hz (± 10%).
 - AP-PAL-multi: 120 - 230 V_{AC} / 50 Hz (± 10%).
 - EU: 230 V_{AC} / 50 Hz (± 10%).
 - LATAM-NTSC: 120 - 230 V_{AC} / 50 Hz (± 10%).
 - US: 120 V_{AC} / 60 Hz (± 10%).
- Connect the set to the AC Power via an isolation transformer with low internal resistance.
- Allow the set to warm up for approximately 15 minutes.
- Measure voltages and waveforms in relation to chassis ground (with the exception of the voltages on the primary side of the power supply).

Caution: It is not allowed to use heatsinks as ground.
- Test probe: R_i > 10 Mohm, C_i < 20 pF.
- Use an isolated trimmer/screwdriver to perform alignments.

8.1.2 Initial Settings

Perform all electrical adjustments with the following initial settings (via the "Active Control" button on the RC):

1. To avoid the working of the lightsensor, set ACTIVE CONTROL to OFF.
2. Set SMART PICTURE to NATURAL/ECO.

8.1.3 Alignment Sequence

- First, set the correct options:
 - In SAM, select (SERVICE) OPTIONS -> OPT. NO,
 - Fill in the option settings according to the set sticker (see also paragraph "Option Settings"),
 - Select STORE OPTIONS and push OK on the remote control,
 - After storing, the set must be restarted!
- Warming up (>10 minutes).
- White point alignment.

8.2 Hardware Alignments

There are no hardware alignments foreseen for this chassis.

8.3 Software Alignments

Put the set in SAM mode (see the "Service Modes, Error Codes and Fault Finding" section). The SAM menu will now appear on the screen. Select ALIGNMENTS and go to one of the sub menus. The alignments are explained below.

Notes:

- All changes must be stored manually.
- If an empty EAPROM (permanent memory) is detected, all settings are set to pre-programmed default values.

8.3.1 General

For the next alignments, supply the following test signals via a video generator to the RF input:

- **EU/AP-PAL** models: a PAL B/G TV-signal with a signal strength of at least 1 mV and a frequency of 475.25 MHz
- **US/AP-NTSC** models: an NTSC M/N TV-signal with a signal strength of at least 1 mV and a frequency of 61.25 MHz (channel 3).
- **LATAM** models: an NTSC M TV-signal with a signal strength of at least 1 mV and a frequency of 61.25 MHz (channel 3).

Tuner AGC

Purpose: To keep the tuner output signal constant as the input signal amplitude varies.

For this chassis, no alignment is necessary, as the AGC alignment is done automatically (standard value: "32").

IF PLL offset pos. (and neg.)

The IF PLL Offset value needs to be realigned in case the MPIF and/or the NVM have been replaced. This is not necessary in case only the tuner has been replaced. Default values are:

- For Europe PAL: 40
- For Europe SECAM: 32
- For USA NTSC: 32

In case the result is not satisfying (distortion in sound and/or discolouration in left and right part of the picture), use the following method to align the IF PLL Offset value:

- Switch set "off".
- Disconnect speakers and connect a resistor of 1 kΩ instead.
- Connect AC voltmeter at resistor.
- Switch set "on".
- Put "Volume" at maximum.
- Align PLL until voltage is at minimum.

In case the minimum value on the AC voltmeter is found in a range of IF PLL Offset values, the value should be taken that is in the middle of this range.

8.3.2 White Point

- Set ACTIVE CONTROL to OFF.
- In the [MENU] -> PICTURE user menu, set:
 - DYNAMIC CONTRAST to OFF.
 - COLOR ENHANCEMENT to OFF.
 - COLOR to "0".
 - CONTRAST to "100".
 - BRIGHTNESS to "50".
- Go to the SAM and select ALIGNMENTS -> WHITE POINT.

Method 1 (with color analyzer):

- Use a 100% white screen as input signal and set the following values:
 - COLOR TEMPERATURE: Tint to be aligned.
 - All WHITE POINT values to: "127".
 - RED BL OFFSET value to: "7".
 - GREEN BL OFFSET value to: "4".
- Measure with a calibrated (phosphor- independent) color analyzer in the centre of the screen. Consequently, the measurement needs to be done in a dark environment.
- Adjust, by means of decreasing the value of one or two white points, the correct x,y coordinates (see table "White D alignment values"). Tolerance: dx,dy: ± 0.004.
- Repeat this step for the other Color Temperatures that need to be aligned.

- When finished press STORE (in the SAM root menu) to store the aligned values to the NVM.
- Restore the initial picture settings after the alignments.

Table 8-1 White D alignment values

Color Temp. (degr. K)	Cool (11000)	Normal (9100)	Warm (6500)
x	0.276	0.285	0.313
y	0.282	0.293	0.329

When such equipment is not available, use “method 2”.

Method 2 (without color analyzer):

If you do not have a color analyzer, you can use the default values. This is the next best solution. The default values are average values coming from production (statistics).

1. Select a COLOUR TEMPERATURE (e.g. COOL, NORMAL, or WARM).
2. Set the RED, GREEN and BLUE default values according to the values in the "Tint settings" table.
3. When finished press STORE (in the SAM root menu) to store the aligned values to the NVM.
4. Restore the initial picture settings after the alignments.

Table 8-2 Tint

Colour Temp.	R	G	B
Cool	113	116	118
Normal	126	121	118
Warm	124	107	83

8.4 Option Settings

8.4.1 Introduction

The microprocessor communicates with a large number of I²C ICs in the set. To ensure good communication and to make digital diagnosis possible, the microprocessor has to know which ICs to address. The presence / absence of these specific ICs (or functions) is made known via the option codes.

Notes:

- After changing the option(s), save them via "STORE".
- The new option setting is only active after the TV is switched "OFF" and "ON" again (the EARAM is then read again).

8.4.2 Dealer Options

Table 8-3 Dealer options

Menu item	Subjects	Options	Description
Personal Options	Virgin Mode	On	TV starts up (once) with a language selection menu after the Mains switch is turned "ON" for the first time (virgin mode)
		Off	TV does not start up (once) with a language selection menu after the Mains switch is turned "ON" for the first time (virgin mode)
	PDP contrast reduction	On	Not applicable to LCD sets
		Off	Not applicable to LCD sets

8.4.3 (Service) Options

Select the sub menu's to set the initialization codes (options).

Table 8-4 Service options

Menu-item	Subjects	Options	Description
PIP/DS	Dualscreen	None	no DS
Data	EPG	On / Off	Feature present / not present
	IR blaster	Off	Feature not present
	RRT	Yes	Parental control is enabled via the Regional Rating Table (RRT)
Display	Screen	"Value"	Used screen size, type, and resolution (see table "Display code overview" in chapter "Service Modes" for the values)
	Clear LCD	On	Feature present
	Dimming backlight	On	Feature present
Video Repro	Picture Processing	No Spider	Feature not present
	Combfilter	None / 2D / 3D	Feature not present / 2D / 3D
	Ambient Light	Off / Mono / Stereo	Inverter not present / two inverters mono / two inverters stereo
	AmbiLight technology	LED	Feature present
	Pacific 3	On / Off	Feature present / not present
	MOP	On / Off	Feature present / not present (for sets with AmbiLight this is "on")
	POD	Off	Feature not present
	Light sensor	Off	Feature not present
Source Selection	AV1 type	(CVBS) YPbPr LR	Feature present
	AV2 type	(CVBS) YPbPr LR	Feature present
	AV3 type	None	Feature not present
	AV4 type	None	Feature not present
	HDMI 1	No analog audio	HDMI without analog audio
	HDMI 2	No analog audio	HDMI without analog audio
	HDMI 3	None	No HDMI
	USB version	USB 1.1	USB 1.1 in side I/O panel
	IEEE1394	Not present	Firewire connector not present
	Ethernet	Off	Connector not present
	VGA	Off	Connector not present
	SPDIF inputs	None	Connector not present
Audio Repro	Acoustic System (Cabinet design, used for setting dynamic audio parameters).	LC07D 26 ME7	Depends on model
		LC07D 32 ME7	Depends on model
		LC07D 42 LCD ME7	Depends on model
		LC07D 42 PDP ME7	Depends on model
	Center mode support	Off	Feature not present
	Inverted Class D amplifier	Yes / No	Feature present / not present
Miscellaneous	Region	US	
	ATSC / DVB-T	On	Feature present
	Alternative Tuner	Philips	Tuner brand
	Tuner Type	TD1336S / TD 1331	Tuner type
	AGC amplifier	Other / Sanyo	
	Hotel mode	Off / On	Feature not present / Feature present
	Video playback	On	Feature present
	Connected planet	Off	Feature not present
Option numbers	Group 1		03152 00290 00549 02691 (example, see set sticker)
	Group 2		01070 00000 21152 00000 (example, see set sticker)
	Store		To store the changed option number settings

8.4.4 Option Numbers

Select this sub menu to set all options at once (expressed in two long strings of numbers).

An option number (or "option byte") represents a number of different options. When you change these numbers directly, you can set all options very quickly. All options are controlled via eight option numbers.

When the EAROM is replaced, all options will require resetting. To be certain that the factory settings are reproduced exactly, you must set both option number lines. You can find the correct option numbers on a sticker inside the TV set.

CTN	Options Group 1	Options Group 2	Displ. Code
26PFL5322D/37	03088 00289 00549 02691	01069 00000 21152 00000	045
32PFL5322D/37	03088 00290 00549 02691	01070 00000 21152 00000	046
32PFL7332D/37	03152 00290 00549 02691	01070 00000 21152 00000	046
37PFL5332D/37	03088 00291 00549 02691	01095 00000 21152 00000	071
37PFL7332D/37	03152 00291 00549 02691	01095 00000 21152 00000	071
42PFL5332D/37	03088 00291 00549 02691	01081 00000 21152 00000	057
42PFL7332D/37	03152 00291 00549 02691	01081 00000 21152 00000	057

Group 1 indicates hardware options 1 to 4, Group 2 indicates software options 5 to 8.

Every 5-digit number represents 16 bits (so the maximum value will be 65536 if all options are set).

When all the correct options are set, the sum of the decimal values of each Option Byte (OB) will give the option number.

Table 8-5 Option code overview

Byte	Bit (dec. value)	Subject	Options	Settings (in decimal values)	Remarks
1	0 (1)	Video Repro	Picture Processing	0= No Spider, 1= Spider	Spider availability, influences, digital options.
	1 (2)				
	2 (4)				
	3 (8)		Comb Filter	0= None, 8= 2D Comb (Columbus without DRAM), 16= 3D Comb (Columbus with DRAM)	
	4 (16)				
	5 (32)		Ambient Light	0= None, 32= Ambi-light Stereo, 64= Ambi-light Mono	
	6 (64)				
	7 (128)		Dual Screen	0= None, 256= One Tuner DS, 512= Two Tuner DS	
	8 (256)				
	9 (512)		MOP	0= Off, 1024= On	Matrix Output Processor (or EBILD)
	10 (1024)				
	11 (2048)		JOP	0= Off, 2048= On	Jaguar Output Processor (or EBILD) Reserved for future use
	12 (4096)		POD	0= Off, 4096= On	
	13 (8192)		n.a.		
	14 (16384)		n.a.		
	15 (32768)		n.a.		
2	0 (1)	Sound Repro	Acoustic System (Cabinet)	0= None, 1= Entry_ME5_5W, 2= Entry_ME5_15W, 3= (Soft)Wrap, 4= Top, 5= Entry+, 6= Eco ME5 5W, 7= Eco ME5 15W, 8= Eco ME6 9= Top-A 2K6, 10= Step Top -B Open 2K6, 11= ME6 2K6, 12= 51 WMAG, 13= 51 PHIL, 14= 60 PHIL, 15= MG Eco Slim	Cabinet design, used for setting dynamic audio parameters.
	1 (2)				
	2 (4)				
	3 (8)		Aux Headphone Sound	0= Off, 16= On	Dual AC3 sound in Aux available.
	4 (16)				
	5 (32)		n.a.		
	6 (64)		n.a.		
	7 (128)		n.a.		
	8 (256)		n.a.		
	9 (512)		Sub woofer Internal	0= Not Present, 512= Present	
	10 (1024)		Centre Mode Support	0= Not Supported, 1024= Supported	
	11 (2048)		n.a.		
	12 (4096)		n.a.		
	13 (8192)		n.a.		
	14 (16384)		n.a.		
	15 (32768)		n.a.		
3	0 (1)	Source Select	HDMI1	0= None, 1= With analog audio, 2= Without analog audio	
	1 (2)		HDMI2	0= None, 4= With analog audio, 8= Without analog audio	
	2 (4)				
	3 (8)		n.a.		
	4 (16)				
	5 (32)		USB Version	0= None, 32= USB 1.1, 64= USB 2.0 + Card reader	USB support.
	6 (64)		IEEE1394	0= Not Present, 128= Present	
	7 (128)				
	8 (256)		Ethernet	0= LAN not present, 256= LAN present	
	9 (512)		RRT	0= Off, 512= On	Regional Rating Table (RRT)
	10 (1024)		S/PDIF Inputs	0= None, 1024= 1 Connector, 2048= 2 Connectors	
	11 (2048)		LCOS I/O	0= Not Present, 4096= Present	
	12 (4096)				
	13 (8192)		n.a.		
	14 (16384)		n.a.		
	15 (32768)		n.a.		
4	0 (1)	Region	Region	0= EU, 1= AP-P, 2= AP-N, 3= US, 4= Latam	
	1 (2)		Interconnect	0= Off, 8= On	
	2 (4)				
	3 (8)	Interconnect	China IF		
	4 (16)		Alternative Tuner	0= Philips, 16= Alps	Tuner make.
	5 (32)		Tuner Type	0= TD1336s (B-Chassis US), 32= TD1331(J-Chassis US), 64= UV1318 (Analogue EU), 96= TD1316 (Hybrid EU)	Tuner type (B-chassis US is e.g "BP2.3U").
	6 (64)				
	7 (128)	Source Select	AGC Amp.	0= NEC IF Amp, 128= Sanyo IF Amp.	Pos.: 7T13 of B02B schematic
	8 (256)		AV1	0= CVBS/RGB, 256= CVBS/YC/LR, 512= CVBS/YC/YPbPr/HV/LR	Input type.
	9 (512)		AV2	0= CVBS/YC/RGB/P50, 1024= CVBS/YC/LR	Input type.
	10 (1024)				
	11 (2048)		AV3	0= Not Available, 4096= CVBS, 8192= YPbPr	Input type.
	12 (4096)				
	13 (8192)		AV4	0= Not Available, 16384= YPbPr	Input type.
	14 (16384)				
	15 (32768)				

Byte	Bit (dec. value)	Subject	Options	Settings (in decimal values)	Remarks
5	0 (1)	Display	Screen	See table "Display code overview" in chapter "Service Modes" for the values.	Screen size, type, and resolution.
	1 (2)				
	2 (4)				
	3 (8)				
	4 (16)				
	5 (32)				
	6 (64)				
	7 (128)				
	8 (256)		n.a.		
	9 (512)		PDP contrast reduction	0= Off, 512= On	To reduce the contrast of the PDP for a still picture after a certain time
	10 (1024)		Dimming Backlight	0= Off, 1024= On	
	11 (2048)		Scanning Backlight	0= Off, 2048= On	Option for Scanning Backlight, which is only applicable for Clear LCD
	12 (4096)		n.a.		
	13 (8192)		n.a.		
	14 (16384)		n.a.		
	15 (32768)		n.a.		
6	0 (1)	Miscellaneous	n.a.		Reserved for future use
	1 (2)		n.a.		
	2 (4)		n.a.		Reserved for future use
	3 (8)		n.a.		
	4 (16)		n.a.		
	5 (32)		n.a.		
	6 (64)		Proximity Sensor	0= Off, 64= On	
	7 (128)		n.a.		
	8 (256)		n.a.		
	9 (512)		n.a.		
	10 (1024)		n.a.		
	11 (2048)		n.a.		
	12 (4096)		n.a.		
	13 (8192)		n.a.		
	14 (16384)		n.a.		
	15 (32768)		n.a.		
7	0 (1)	Personal	Self Learning TV	0= Off, 1= On	Reserved for future use
	1 (2)		Auto Store Mode	0= None, 2= PDC/VPS, 4= TXT Page, 6= PDC/VPS/TXT Page	Fixed to: "None" in the AP-N and US versions.
	2 (4)				
	3 (8)		2CS Korea	0= Off, 8= On, 16= Auto	
	4 (16)				
	5 (32)		Picture Mute	0= Off, 32= On	
	6 (64)		n.a.		
	7 (128)		Virgin Mode	0= Off, 128= On	
	8 (256)		Hotel Mode	0= Off, 256= On	
	9 (512)		Content Browser	0= Not Present, 512= Present	
	10 (1024)		Connected Planet	0= Off, 1024= Full Connected Planet + logo support	
	11 (2048)				
	12 (4096)		ATSC/DVB	0= DVB, 4096= ATSC	
	13 (8192)				
	14 (16384)		EPG	0= Off, 16384= On	Applicable to Europe
	15 (32768)		Gemstar	0= Off, 32768= On	Applicable to NAFTA
8	0 (1)	n.a.	n.a.		
	1 (2)	n.a.	n.a.		
	2 (4)	n.a.	n.a.		
	3 (8)	n.a.	n.a.		
	4 (16)	n.a.	n.a.		
	5 (32)	n.a.	n.a.		
	6 (64)	n.a.	n.a.		
	7 (128)	n.a.	n.a.		
	8 (256)	n.a.	n.a.		
	9 (512)	n.a.	n.a.		
	10 (1024)	n.a.	n.a.		
	11 (2048)	n.a.	n.a.		
	12 (4096)	n.a.	n.a.		
	13 (8192)	n.a.	n.a.		
	14 (16384)	n.a.	n.a.		
	15 (32768)	n.a.	n.a.		

9. Circuit Descriptions, Abbreviation List, and IC Data Sheets

Index of this chapter:

- 9.1 Introduction
- 9.2 Abbreviation List
- 9.3 IC Data Sheets

Notes:

- Only new circuits (circuits that are not published recently) are described. For other descriptions see the EL1.1U manual (3122 785 1629x, where x can be 0 to 9 depending on the manual version).
- Figures can deviate slightly from the actual situation, due to different set executions.
- For a good understanding of the following circuit descriptions, please use the wiring, block (chapter 6) and circuit diagrams (chapter 7). Where necessary, you will find a separate drawing for clarification.

9.1 Introduction

This chassis is specifically developed for ATSC reception without CableCARD™, and is in fact derived from the EL1.1U chassis. The key components are:

- MPIF (PNX3000).
- AVIP/COLUMBUS (PNX2015).
- VIPER 2 (PNX8550).

The differences with respect to the EL1.1U chassis are:

- Two HDMI connectors (i.o. one).
- The presence of the AmbiLight Interconnection Board.

9.1.1 Features

The main features for this chassis are:

- The move from the analog world to the digital world. W.o.w. from signal processing via "hardware circuits" to signal processing via "software algorithms". This means: no software = no picture and sound!
- Fit for both analog and digital signal processing, this by converting analog signals into digital transport streams and allowing seamless zapping between all possible signal sources. This makes the chassis applicable for e.g. receiving ATSC in an integrated product form.
- The internal digital processing allows new "Multi-Media" applications such as Content Browser, Memory Card Slot, Local Area Network support and all kinds of streaming applications.
- The chassis can be upgraded in the future with internal functionality such as Personal Video Recording, DVD/RW.

9.1.2 Chassis Block Diagram

Description below refers to the block diagrams in chapter 6 "Block Diagrams, Test Point Overview, and Waveforms".

Analog Reception

The TV receives multimedia information by tuning the Hybrid tuner (for analog and digital reception) to one of many 6 MHz input channels available via a cable connection. When the input channel is an analog channel, the signal is processed via the NTSC decoder and the VBI data decoder of the MPIF.

Digital Reception

The TV receives multimedia information by tuning to one of many 6 MHz input channels available via a cable connection. When the input channel is a digital channel, it is processed via the QAM demodulator and then passed to the multi-media processor (VIPER), which handles the synchronization and display of audio-visual material.

Signal Processing

The AVIP together with the MPIF device is used to perform the input decoding of a single stream of analog audio and video broadcast signals. In addition, the AVIP is used for decoding and presentation of audio output streams. The main data connection between MPIF and AVIP is done via an I²D bus. The AVIP converts the incoming video data to ITU-656 format for communication to the VIPER IC.

The audio data is transferred between the AVIP and VIPER using I²S.

The AVIP IC is controlled by the VIPER via the I²C bus.

The key part in the system, the VIPER, performs almost all key features, like video quality enhancement, motion compensation, picture-in-picture processing, and others. It is a completely digital IC with a TriMedia DSP (Digital Signal Processor) core and a MIPS microcontroller core. The DSP and some additional cores are used to do the video feature processing and some auxiliary sound feature processing. The MIPS microcontroller core is used for all internal and external controlling tasks including a system wide I²C bus.

The VIPER provides a primary digital (YUV or RGB) output to the LVDS transmitter.

AmbiLight Interconnection Board

For further picture enhancement the chassis is equipped with a so called AmbiLight Interconnect Board. This board provides:

- Picture enhancement (Pixel Plus) by the Pacific 3.
- AmbiLight control (used in some sets).
- Dimming Backlight control.
- DC/DC conversion: 12 Volt AmbiLight 15 Volt for AmbiLight Module supply.

Note: In case no AmbiLight units are installed, no separate power supply lines are needed for this board. In that case power is supplied from the Small Signal Board via the LVDS cable.

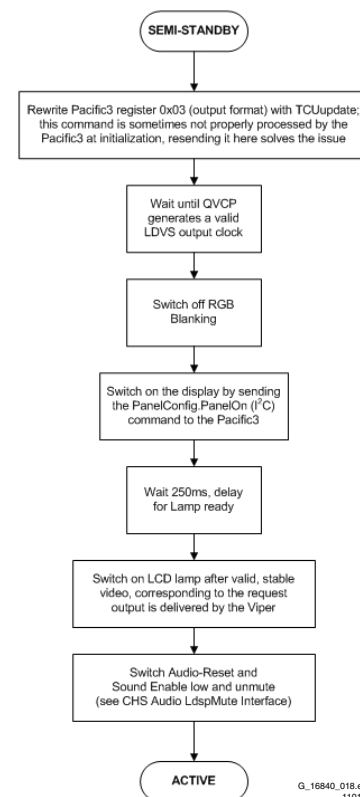


Figure 9-1 AmbiLight interconnect board timing diagram

SSB Cell Layout

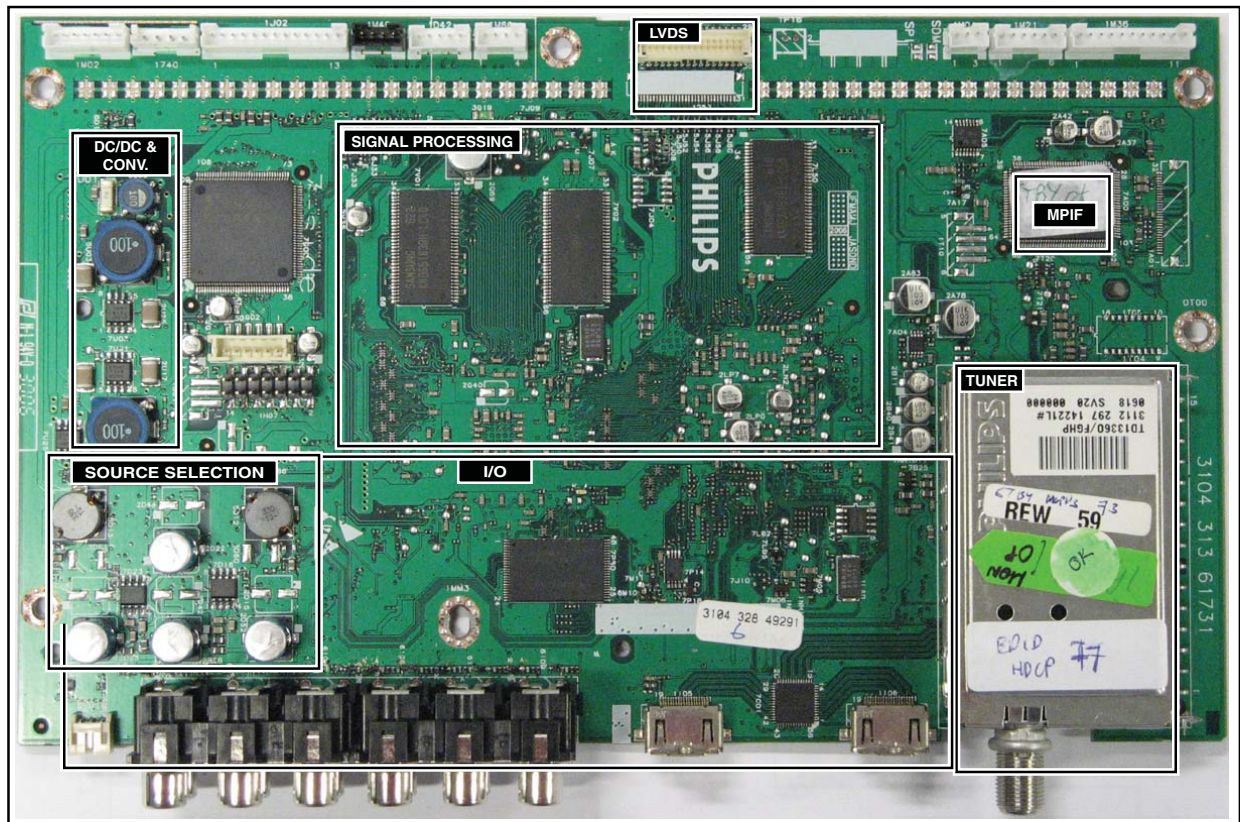
G_16840_015.eps
010207

Figure 9-4 SSB top view

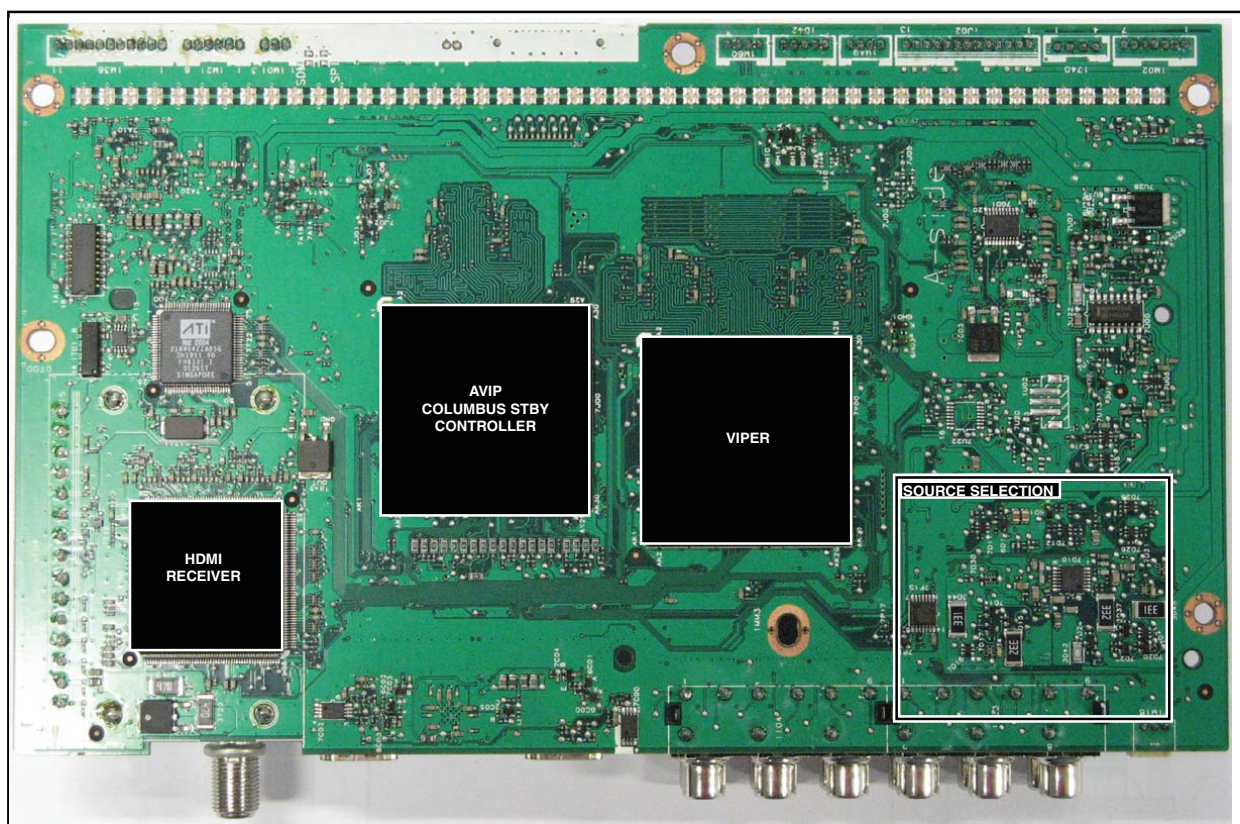
G_16840_016.eps
010207

Figure 9-5 SSB bottom view

9.2 Abbreviation List

AARA	Automatic Aspect Ratio Adaptation: algorithm that adapts aspect ratio to remove horizontal black bars; keeps the original aspect ratio	ECM	emergency information to digital terminal devices
ACI	Automatic Channel Installation: algorithm that installs TV channels directly from a cable network by means of a predefined TXT page	E-DDC	Entitlement Control Message
ADC	Analogue to Digital Converter		Enhanced Display Data Channel (VESA standard for communication channel and display). Using E-DDC, the video source can read the EDID information from the display.
AFC	Automatic Frequency Control: control signal used to tune to the correct frequency	EDID	Extended Display Identification Data (VESA standard)
AGC	Automatic Gain Control: algorithm that controls the video input of the feature box	EEPROM	Electrically Erasable and Programmable Read Only Memory
AM	Amplitude Modulation	EMI	Electro Magnetic Interference
AP	Asia Pacific	EMM	Entitlement Management Message
AR	Aspect Ratio: 4 by 3 or 16 by 9	EPLD	Erasable Programmable Logic Device
ATSC	Advanced Television Systems Committee, the digital TV standard in the USA	EU	Europe
ATV	See Auto TV	EXT	EXTernal (source), entering the set by SCART or by cinches (jacks)
Auto TV	A hardware and software control system that measures picture content, and adapts image parameters in a dynamic way	FAT	Forward Application Transport channel
AV	External Audio Video	FBL	Fast BLanking: DC signal accompanying RGB signals
AVIP	Audio Video Input Processor	FDS	Full Dual Screen (same as FDW)
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz	FDW	Full Dual Window (same as FDS)
BTSC	Broadcast Television Standard Committee. Multiplex FM stereo sound system, originating from the USA and used e.g. in LATAM and AP-NTSC countries	FLASH	FLASH memory
C	Centre channel (audio)	FM	Field Memory or Frequency Modulation
CA(M)	Conditional Access (Module)	FPGA	Field-Programmable Gate Array
CEC	Consumer Electronics Control bus: remote control bus on HDMI connections	FTV	Flat TeleVision
CIS	Card Information Structure: Protocol which identifies the card in a POD module	Gb/s	Giga bits per second
CL	Constant Level: audio output to connect with an external amplifier	H	H_sync to the module
ComPair	Computer aided rePair	HD	High Definition
CP	Connected Planet / Copy Protection	HDD	Hard Disk Drive
CSM	Customer Service Mode	HDCP	High-bandwidth Digital Content Protection: A "key" encoded into the HDMI/DVI signal that prevents video data piracy. If a source is HDCP coded and connected via HDMI/DVI without the proper HDCP decoding, the picture is put into a "snow vision" mode or changed to a low resolution. For normal content distribution the source and the display device must be enabled for HDCP "software key" decoding.
CTI	Color Transient Improvement: manipulates steepness of chroma transients	HDMI	High Definition Multimedia Interface
CVBS	Composite Video Blanking and Synchronization	HP	HeadPhone
DAC	Digital to Analogue Converter	I	Monochrome TV system. Sound carrier distance is 6.0 MHz
DBE	Dynamic Bass Enhancement: extra low frequency amplification	I ² C	Inter IC bus (also called IIC)
DDC	See "E-DDC"	I ² D	Inter IC Data bus; high speed data link with a data transmission rate of 594 Mb/s
D/K	Monochrome TV system. Sound carrier distance is 6.5 MHz	I ² S	Inter IC Sound bus
DFU	Directions For Use: owner's manual	IB	In Band channel
DMR	Digital Media Reader: card reader	IF	Intermediate Frequency
DRAM	Dynamic RAM	IR	Infra Red
DRM	Digital Rights Management	IRQ	Interrupt Request
DSP	Digital Signal Processing	ITU-656	The ITU Radio communication Sector (ITU-R) is a standards body subcommittee of the International Telecommunication Union relating to radio communication. ITU-656 (a.k.a. SDI), is a digitized video format used for broadcast grade video.
DTCP	Digital Transmission Content Protection; A protocol for protecting digital audio/video content that is traversing a high speed serial bus, such as IEEE-1394		Uncompressed digital component or digital composite signals can be used. The SDI signal is self-synchronizing, uses 8 bit or 10 bit data words, and has a maximum data rate of 270 Mbit/s, with a minimum bandwidth of 135 MHz.
DVI(-d)	Digital Visual Interface (d= digital only)	ITV	Institutional TeleVision; TV sets for hotels, hospitals etc.
EAS	Emergency Alert Signalling; A cable TV standard (SCTE18) to signal	JOP	Jaguar Output Processor

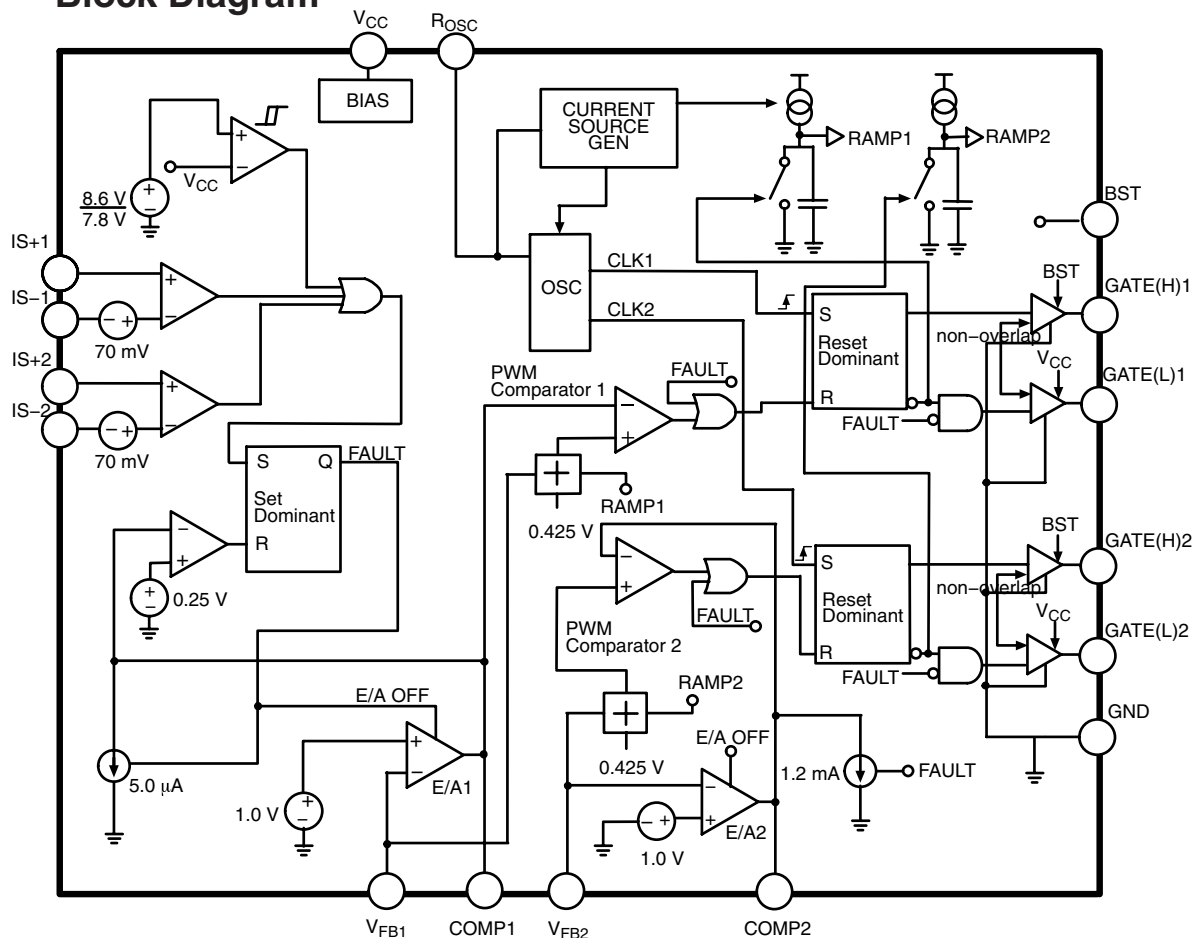
LS	Last Status; The settings last chosen by the customer and read and stored in RAM or in the NVM. They are called at start-up of the set to configure it according to the customer's preferences	RC5 / RC6	Signal protocol from the remote control receiver
LATAM	Latin America	ROM	Read Only Memory
LCD	Liquid Crystal Display	RRT	This is one of the PSIP tables received via an ATSC compliant transport stream. In case of the OpenCable compliant transport stream, RRT is received via the out of band SI
LED	Light Emitting Diode	SAM	Service Alignment Mode
L/L'	Monochrome TV system. Sound carrier distance is 6.5 MHz. L' is Band I, L is all bands except for Band I	S/C	Short Circuit
LPL	LG.Philips LCD (supplier)	SCL	Serial Clock I ² C
LS	Loudspeaker	SCL-F	Clock Signal on Fast I ² C bus
LVDS	Low Voltage Differential Signalling	SD	Standard Definition
Mbps	Mega bits per second	SDA	Serial Data I ² C
M/N	Monochrome TV system. Sound carrier distance is 4.5 MHz	SDA-F	Data Signal on Fast I ² C bus
MOP	Matrix Output Processor	SDI	Serial Digital Interface, see "ITU-656"
MOSFET	Metal Oxide Silicon Field Effect Transistor, switching device	SDRAM	Synchronous DRAM
MPEG	Motion Pictures Experts Group	SECAM	Sequence Couleur Avec Memoire. Color system mainly used in France and East Europe. Color carriers= 4.406250 MHz and 4.250000 MHz
MPIF	Multi Platform InterFace	SIF	Sound Intermediate Frequency
NC	Not Connected	SMPS	Switched Mode Power Supply
NTC	Negative Temperature Coefficient, non-linear resistor	SOG	Sync On Green
NTSC	National Television Standard Committee. Color system mainly used in North America and Japan. Color carrier NTSC M/N= 3.579545 MHz, NTSC 4.43= 4.433619 MHz (this is a VCR norm, it is not transmitted off-air)	SOPS	Self Oscillating Power Supply
NVM	Non-Volatile Memory: IC containing TV related data such as alignments	S/PDIF	Sony Philips Digital InterFace
O/C	Open Circuit	SRAM	Static RAM
OOB	Out Of Band channel	SSB	Small Signal Board
OSD	On Screen Display	STBY	Standby
PAL	Phase Alternating Line. Color system mainly used in West Europe (color carrier= 4.433619 MHz) and South America (color carrier PAL M= 3.575612 MHz and PAL N= 3.582056 MHz)	SVGA	800x600 (4:3)
PCB	Printed Circuit Board (same as "PWB")	SVHS	Super Video Home System
PCM	Pulse Code Modulation	SW	Software
PCMCIA	Personal Computer Memory Card International Association	SXGA	1280x1024
PDP	Plasma Display Panel	TFT	Thin Film Transistor
PIP	Picture In Picture	TMDS	Transmission Minimized Differential Signalling
PLL	Phase Locked Loop. Used for e.g. FST tuning systems. The customer can give directly the desired frequency	uP	Microprocessor
POD	Point Of Deployment: A removable CAM module, implementing the CA system for a host (e.g. a TV-set)	UXGA	1600x1200 (4:3)
POR	Power On Reset, signal to reset the uP	V	V-sync to the module
PSIP	Program and System Information Protocol: A standard for (broadcast) digital television. PSIP consists of channel mapping data, program guide data, information about closed captions and content advisory ratings, and other data related to the current and future programs.	VESA	Video Electronics Standards Association
PWB	Printed Wiring Board (same as "PCB")	VGA	640x480 (4:3)
PWM	Pulse Width Modulation	WXGA	1280x768 (15:9)
QAM	Quadrature Amplitude Modulation; modulation method	XGA	1024x768 (4:3)
RAM	Random Access Memory	Y	Luminance signal
RGB	Red, Green, and Blue. The primary color signals for TV. By mixing levels of R, G, and B, all colors (Y/C) are reproduced.	Y/C	Luminance (Y) and Chrominance (C) signal
RC	Remote Control	YPbPr	Component video. Luminance and scaled color difference signals (B-Y and R-Y)
		YUV	Component video

9.3 IC Data Sheets

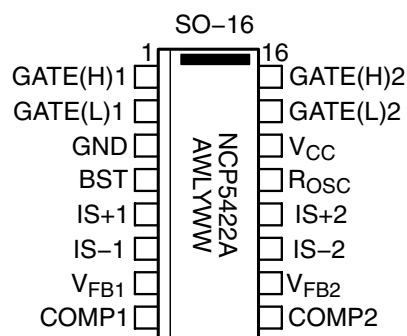
This section shows the internal block diagrams and pin configurations of ICs that are drawn as "black boxes" in the electrical diagrams (with the exception of "memory" and "logic" ICs).

9.3.1 Diagram B01A, NCP5422A (IC 7U00)

Block Diagram



Pin Configuration

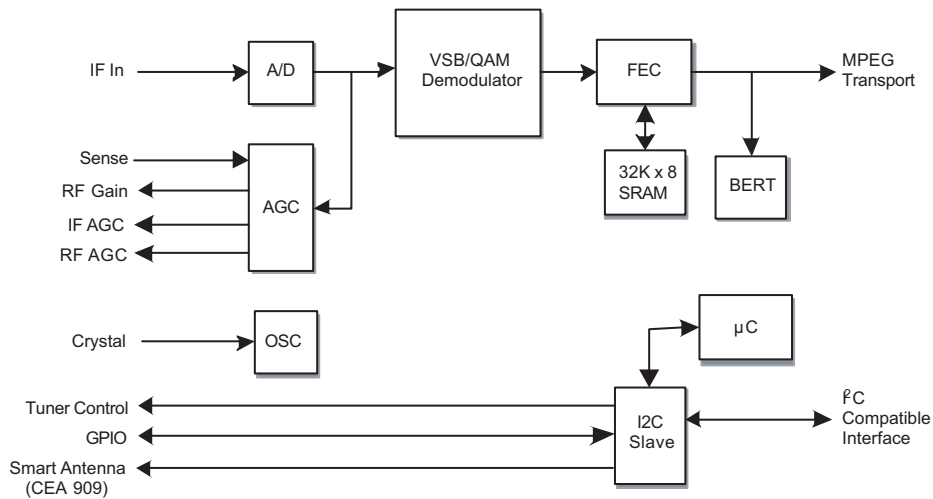


A = Assembly Location
 WL = Wafer Lot
 Y = Year
 WW = Work Week

Figure 9-6 Internal block diagram and pin configuration

9.3.2 Diagram B02A, NXT2004 (IC 7T22)

Block Diagram



Pin Configuration

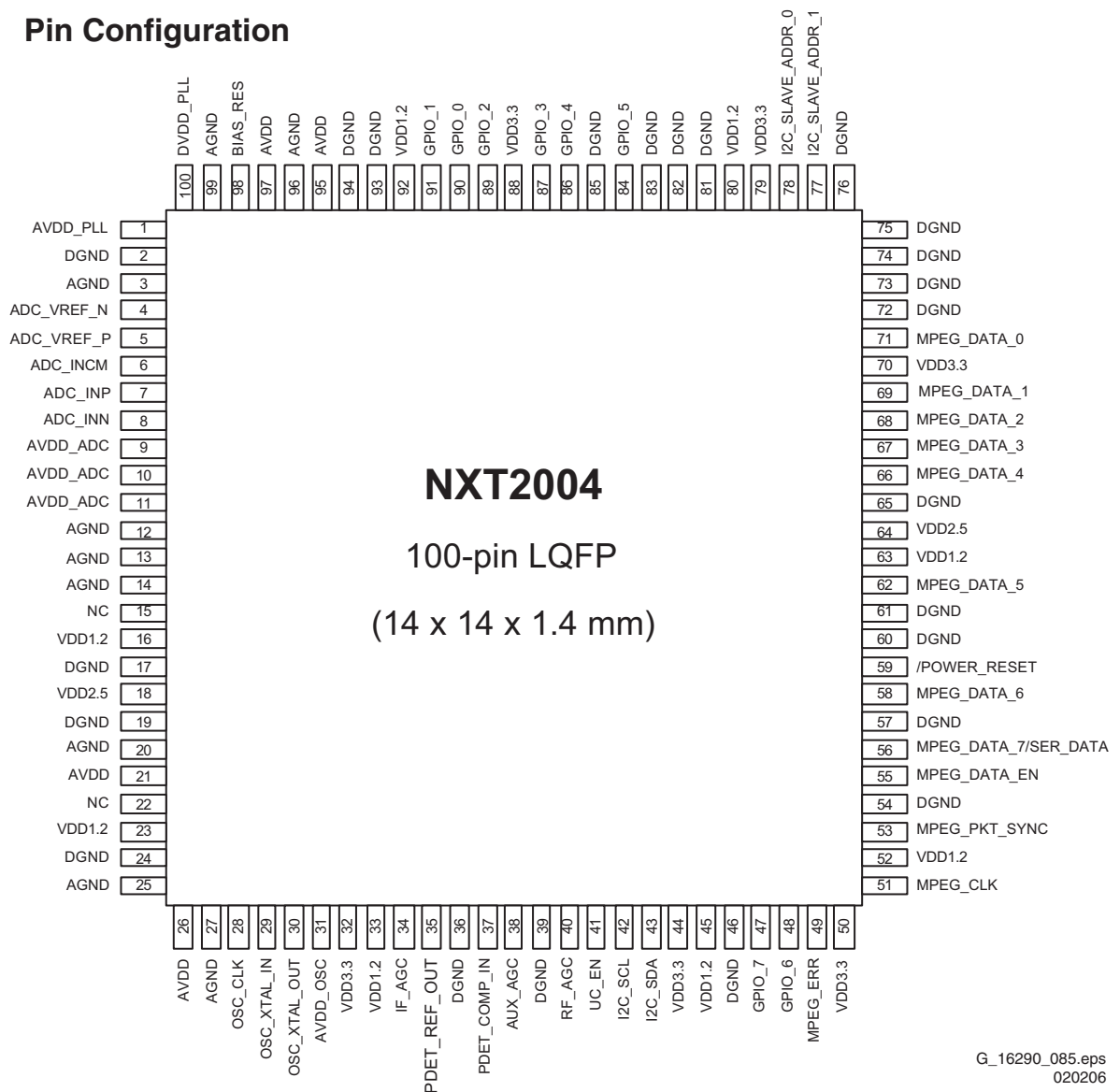
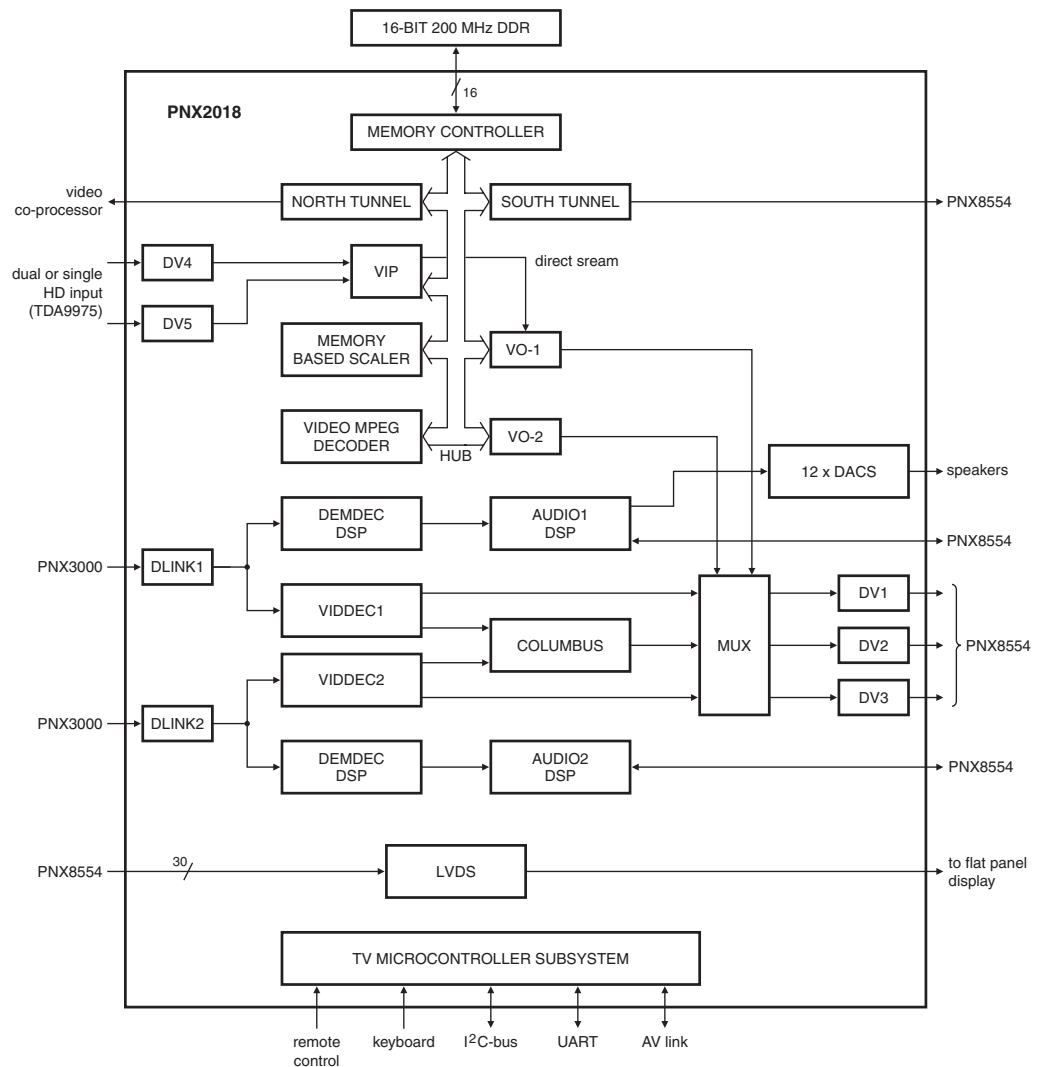


Figure 9-7 Internal block diagram and pin configuration

9.3.4 Diagram B04A/B/C/D/E/F, PNX2018 (IC 7J00)

Block Diagram



Pin Configuration

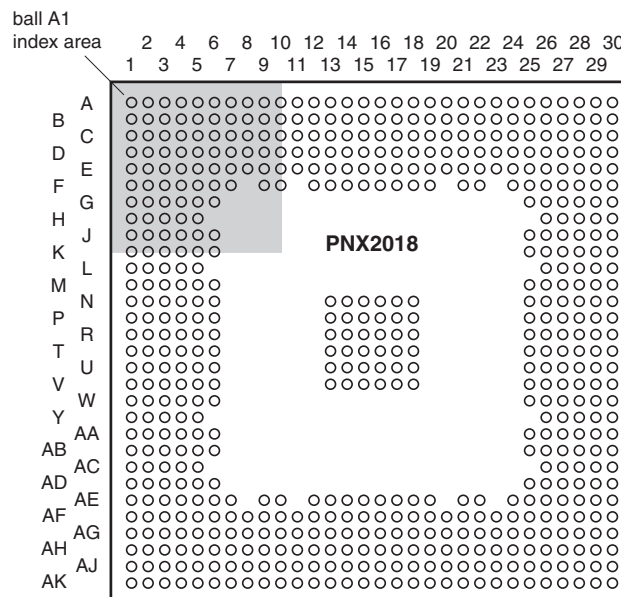
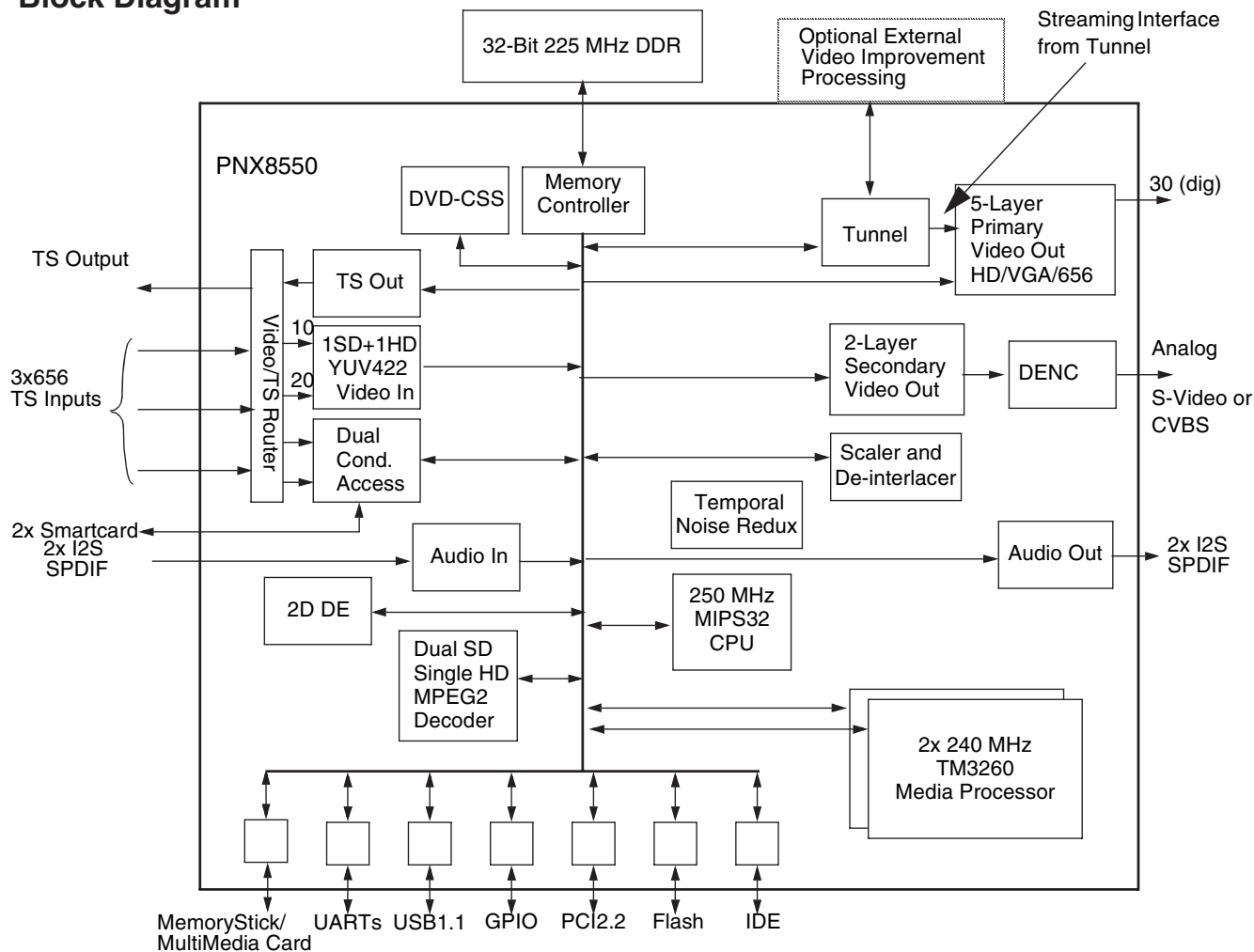


Figure 9-9 Internal block diagram and pin configuration

9.3.5 Diagram B05A/B/C/D, PNX8552 (IC 7V00)

Block Diagram



Pin Configuration

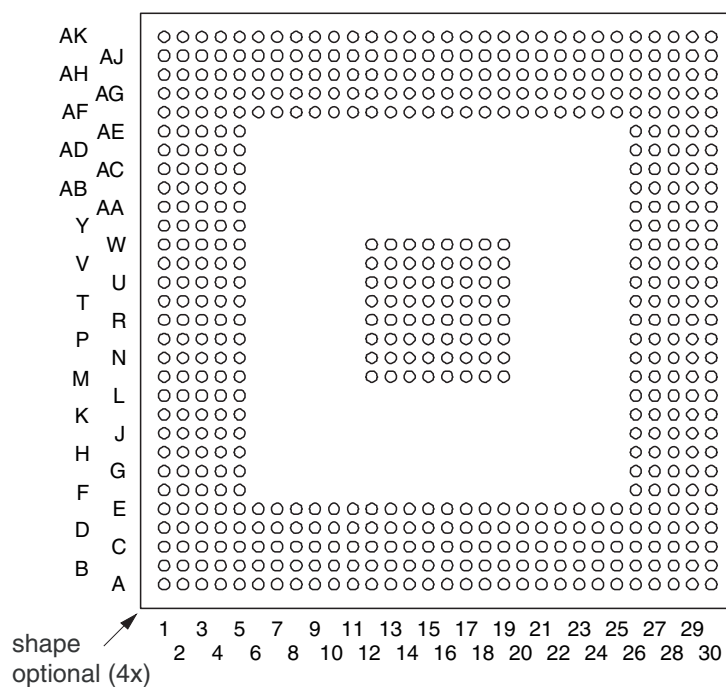
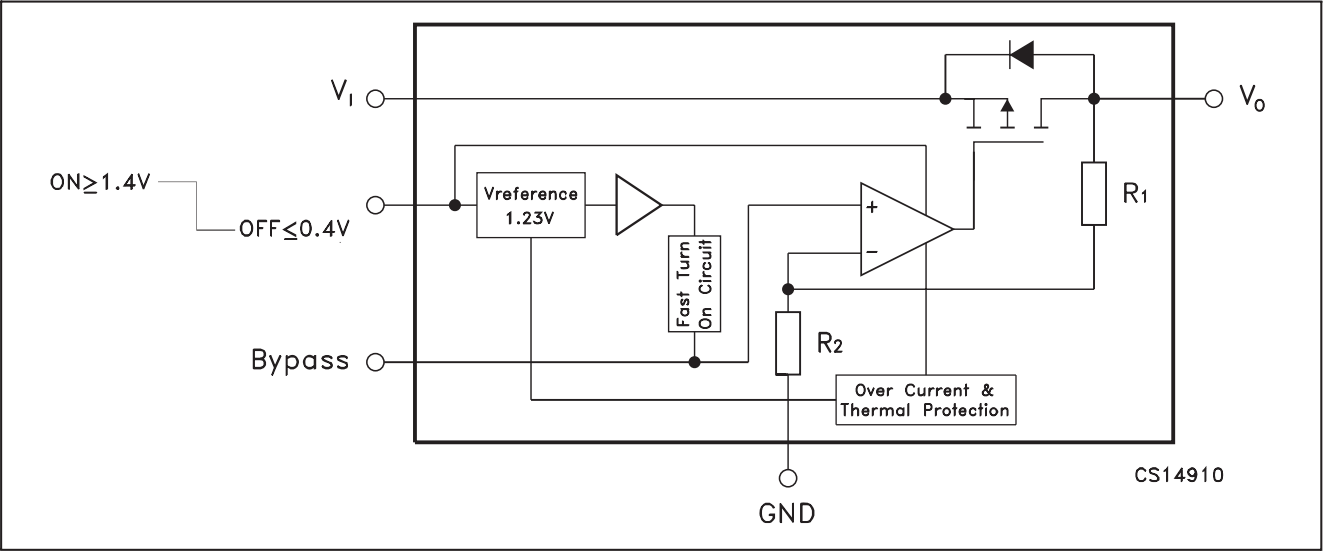


Figure 9-10 Internal block diagram and pin configuration

9.3.6 Diagram B05F, LD3985M (IC 7M05 & 7M06)

Block Diagram



Pin Configuration

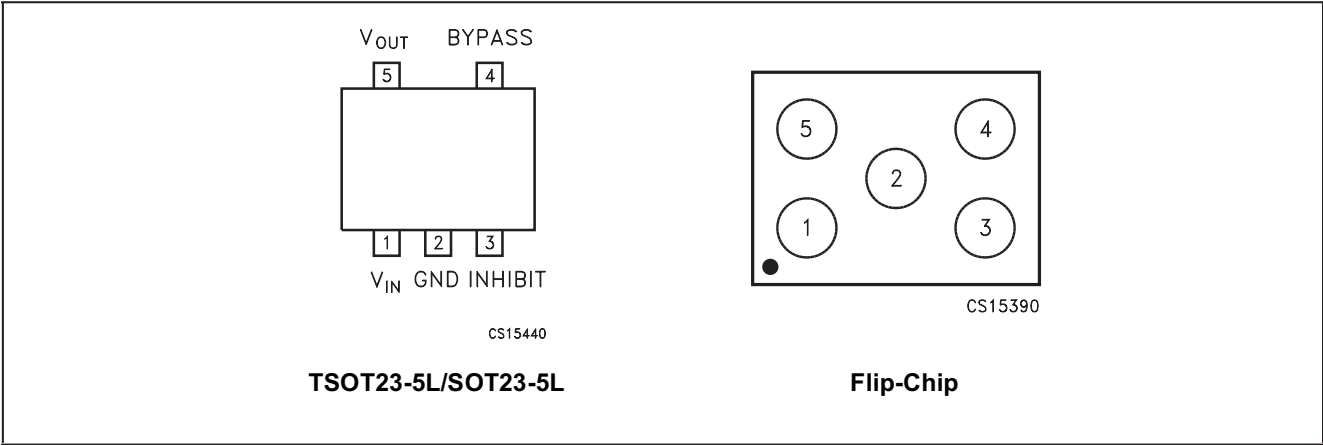


Figure 9-11 Internal block diagram and pin configuration

9.3.7 Diagram B06, MOP XC3S400 (IC 7G00)

Pin Configuration

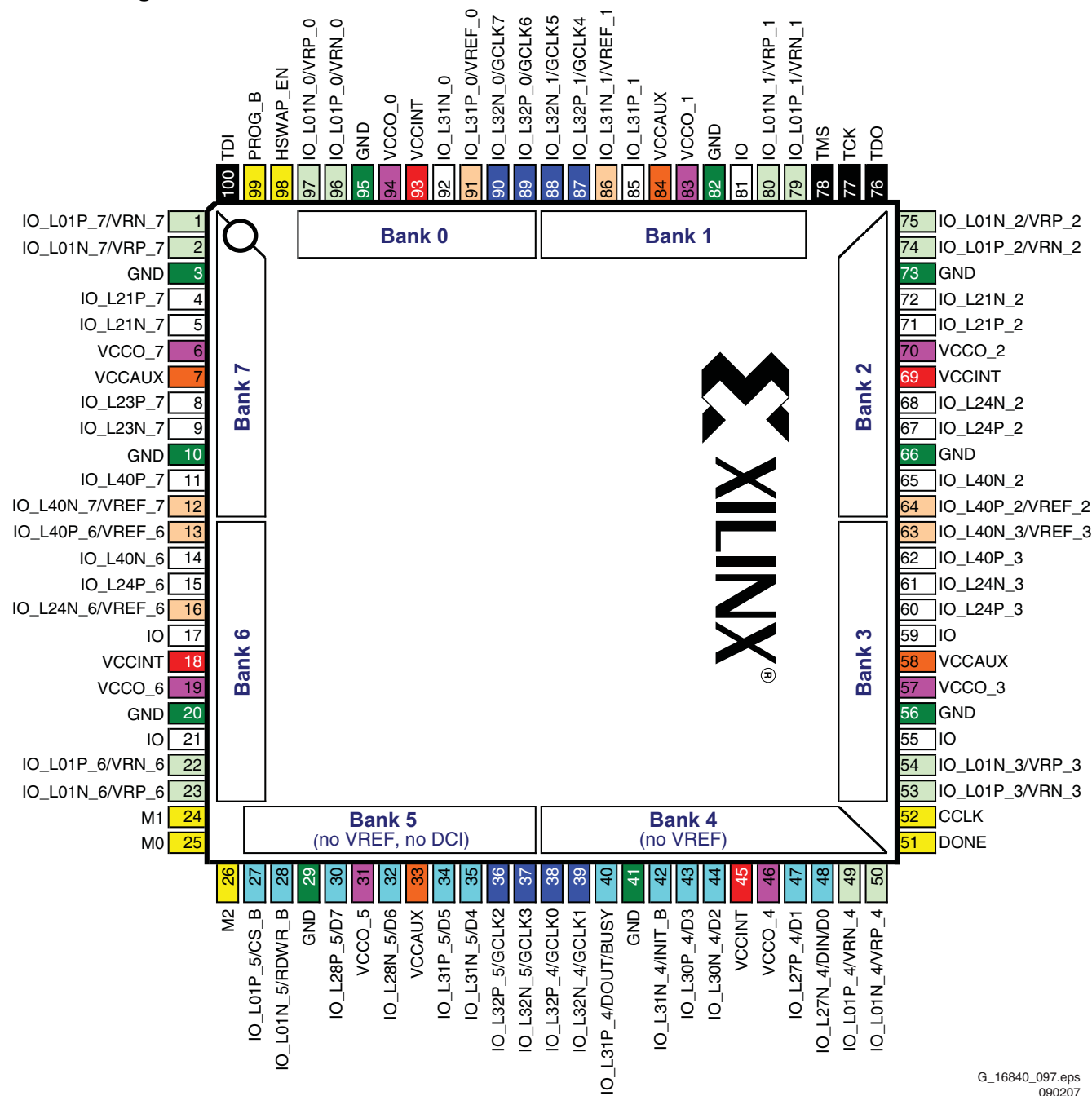
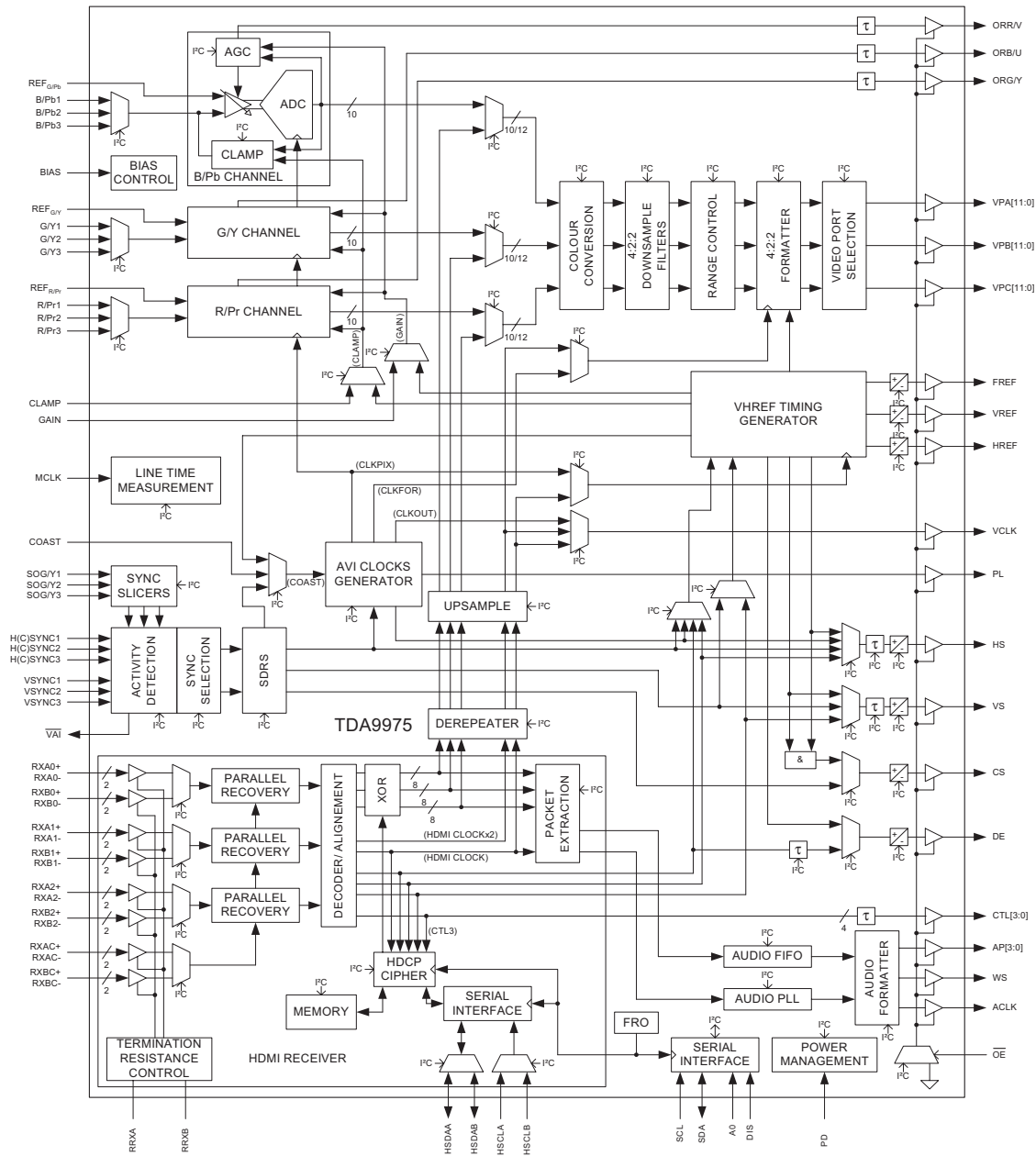


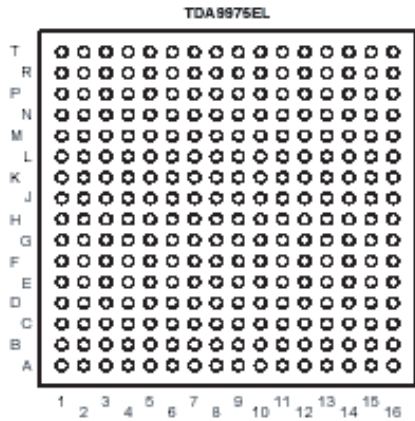
Figure 9-12 Pin configuration

9.3.8 Diagram B07B, TDA9975HS (IC 7B50)

Block Diagram



Pin Configuration

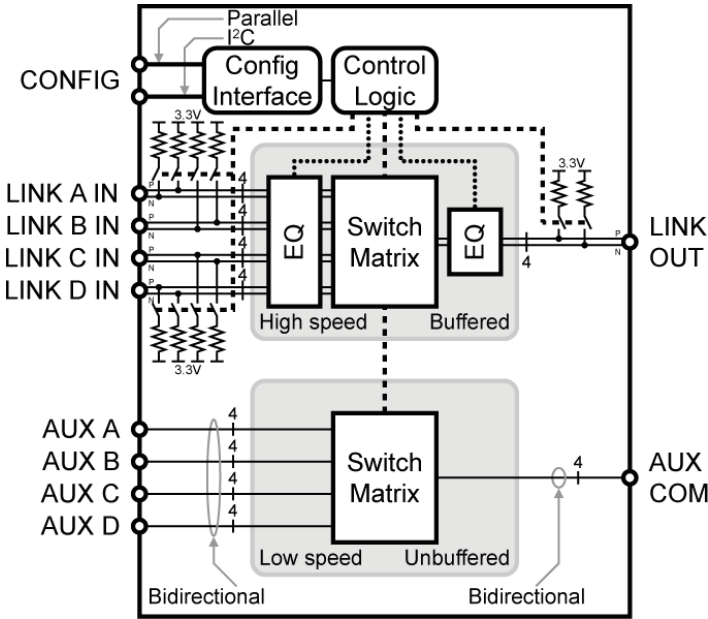


F_15400_135.eps
240505

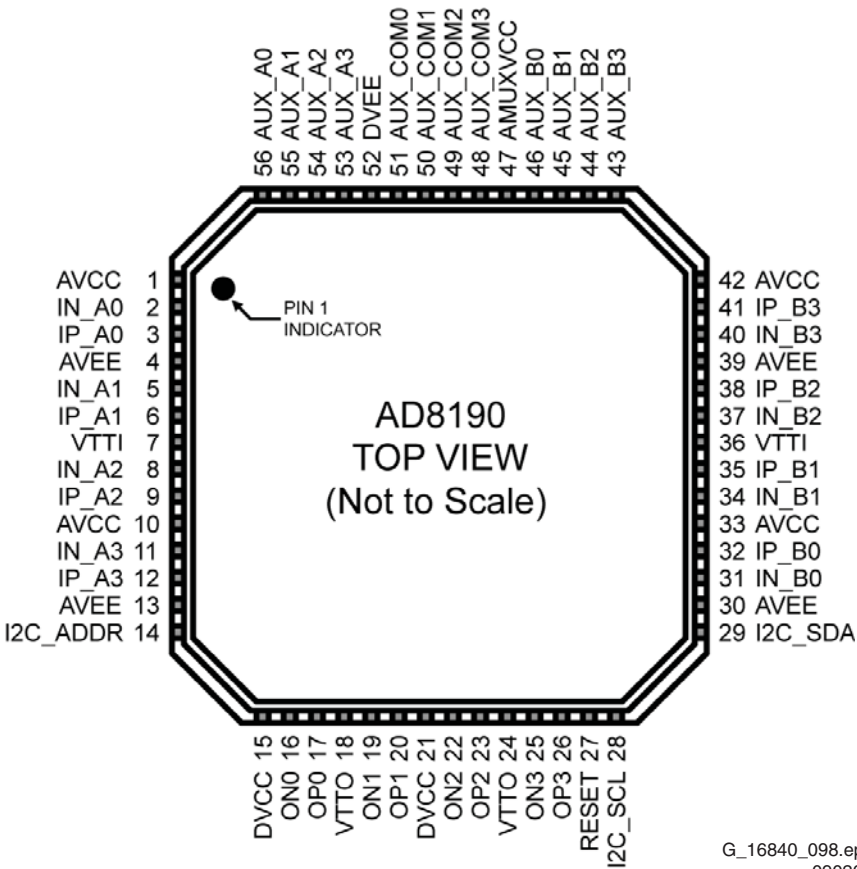
Figure 9-13 Internal block diagram and pin configuration

9.3.9 Diagram B07E, AD8190ACPZ (IC 7C01)

Block Diagram



Pin Configuration



G_16840_098.eps
090207

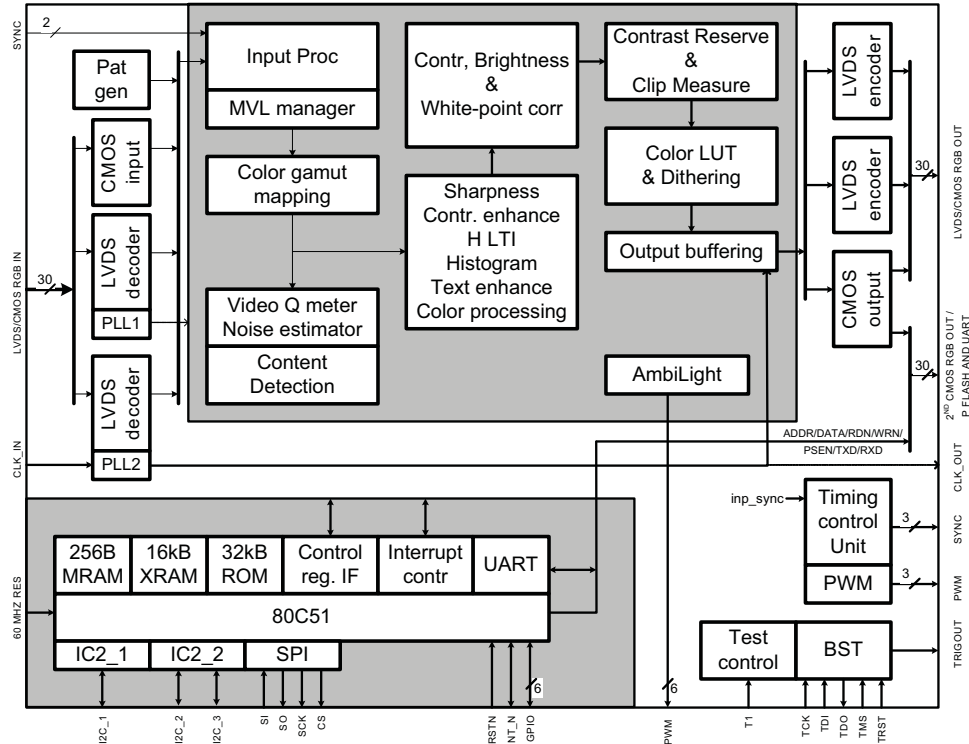
Figure 9-14 Internal block diagram and pin configuration

9.3.10 Diagram M1, NCP5422AD (IC 7101)

See figure "Diagram B01A, NCP5422A (IC 7U00)".

9.3.11 Diagram M2, PACIFIC3-N2 T6TF4HFG (IC 7202)

Block Diagram



Pin Configuration

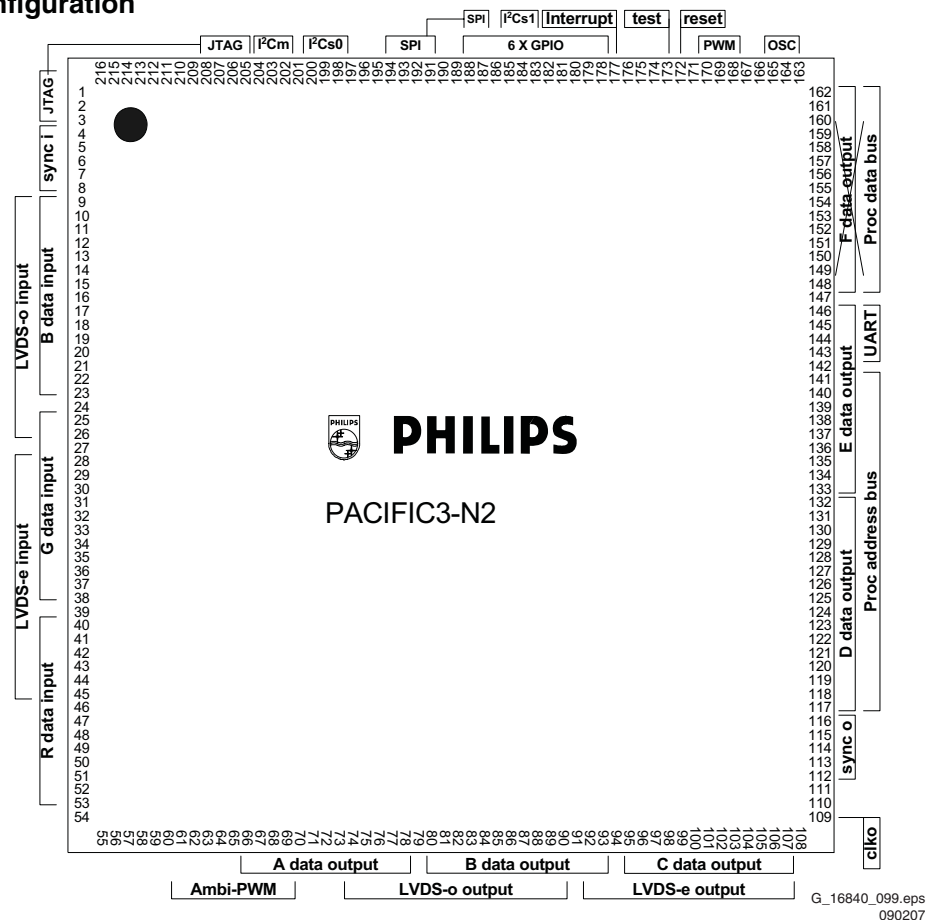
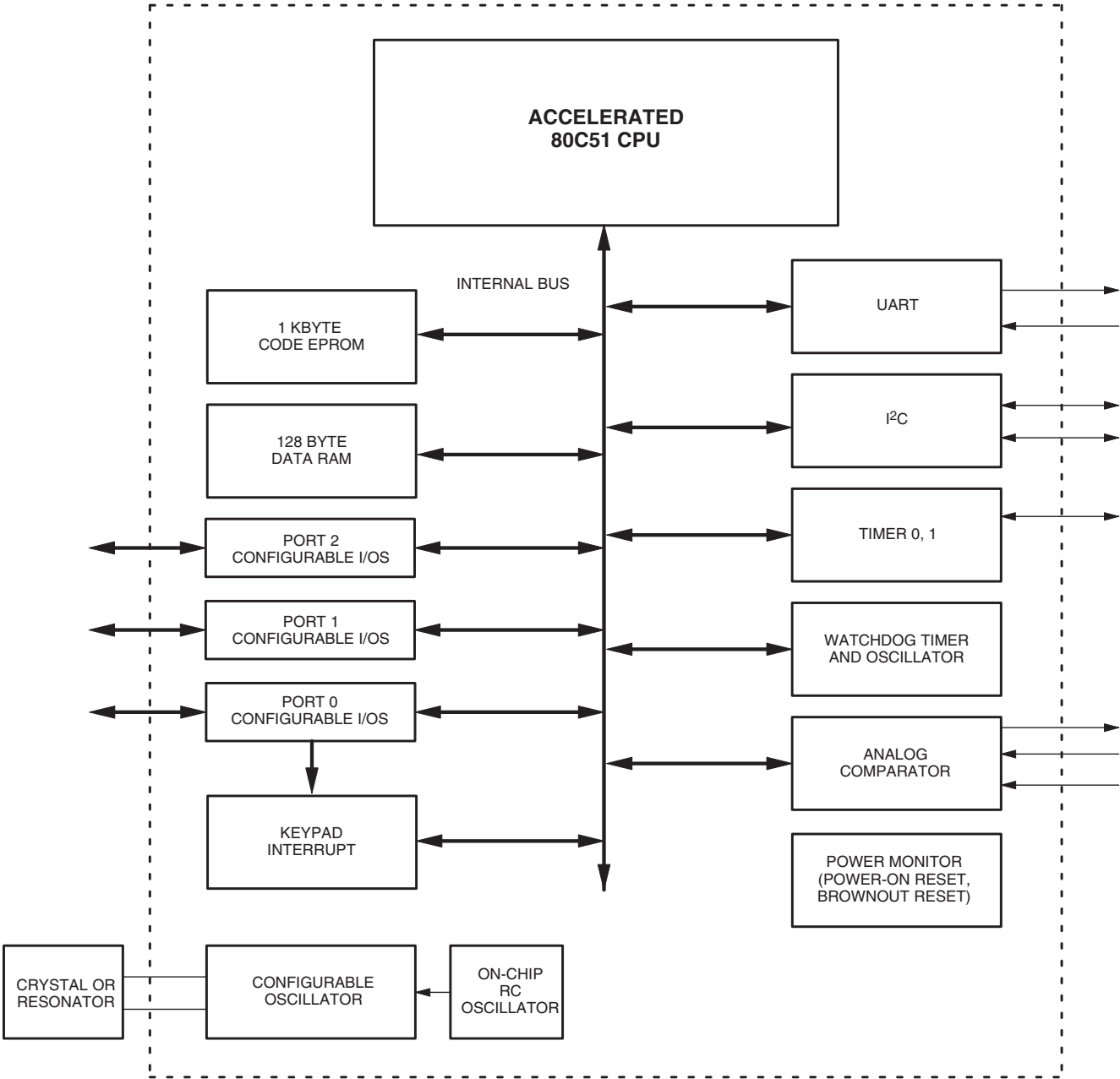


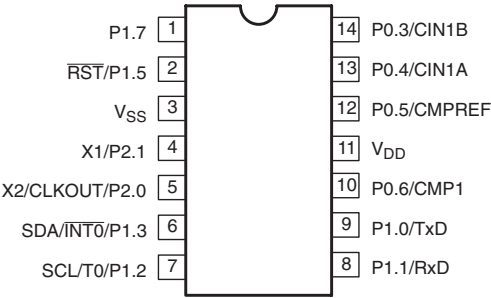
Figure 9-15 Internal block diagram and pin configuration

9.3.12 Diagram M2, P87LPC760BDH (IC 7203)

BLOCK DIAGRAM



PIN CONFIGURATION



E_14620_150.eps
200804

Figure 9-16 Internal block diagram and pin configuration

10. Spare Parts List

Set Level

32PFL5332D/37-ME7

0802	One-ZIP file	Download from website
1004▲	9322 230 03682	LC320W01-SL06
1005▲	3122 427 24541	PSU PLCD190P5
1112	3139 268 05031	IR & LED Panel [J]
1114	3139 268 04971	Keyboard Ctrl Assy [E]
1116	3139 268 05091	Side A/V Assy [D]
1150	3139 268 09051	EBJ Service SSB
1163	3139 268 09131	AL Interconn. Assy [M]
8199	2422 076 00772	Cable Usb-A 1m0 Usb-A
8308	3104 311 07121	Cable 2p3/220/Inlet
8316	3104 311 10001	Cable 14p/180/14p Wh
8317	3104 311 10701	Cable 12p/680/12p
8405	3139 131 08821	Cable 30p/340/30p
8740	3139 131 08681	Cable 4p/480 560/2ft
8J02	3104 311 12511	Cable 13p/220/13p Wh
8M01	3139 131 08811	Cable 3p/680/3p
8M21	3104 311 07231	Cable 6p/560/6p
8M36	3104 311 07001	Cable 11p/400/11p
8M60	3139 131 08801	Cable 4p/560/4p
8P06	3139 131 08791	Cable30p/340/30p



5213	2422 264 00612	Loudsp. 12Ω 15W FR
5215	2422 264 00613	Loudsp. 12W 15W Tw

37PFL5332D/37-ME7

0802	One-ZIP file	Download from website
1004▲	9322 246 96682	LC370WX1-SLB1
1005▲	3122 427 24421	PSU PLCD300P1
1112	3139 268 05031	IR & LED Panel [J]
1114	3139 268 04971	Keyboard Ctrl Assy [E]
1116	3139 268 05091	Side A/V Assy [D]
1150	3139 268 09051	EBJ Service SSB
1163	3139 268 09131	AL Interconn. Assy [M]
8199	2422 076 00772	Cable Usb-A 1m0 Usb-A
8308	3104 311 08061	Cable 2p3/120/Inlet
8316	3104 311 12451	Cable 14p/140/14p
8317	3104 311 08191	Cable 12p/1200/12p
8405	3139 131 08821	Cable 30p/340/30p
8740	3139 131 08061	Cable 4p/1k0 820/2ft
8J02	3104 311 12521	Cable 13p/480/13p Wh
8M01	3139 131 08811	Cable 3p/680/3p
8M21	3104 311 07231	Cable 6p/560/6p
8M36	3104 311 08031	Cable 11p/480/11p
8M60	3139 131 08911	Cable 4p/680/4p
8P06	3139 131 08791	Cable30p/340/30p



5211	3139 128 78251	Loudsp. 8Ω 20W R
5212	3139 128 78511	Loudsp. 8Ω 20W L

42PFL5332D/37-ME7

0802	One-ZIP file	Download from website
1004▲	9322 246 97682	LC420WX3-SLA1
1005▲	3122 427 24421	PSU PLCD300P1
1112	3139 268 05031	IR & LED Panel [J]
1114	3139 268 04971	Keyboard Ctrl Assy [E]
1116	3139 268 05091	Side A/V Assy [D]
1150	3139 268 09051	EBJ Service SSB
1163	3139 268 09131	AL Interconn. Assy [M]
8199	2422 076 00772	Cable Usb-A 1m0 Usb-A
8308	3104 311 06951	Cable 2p3/180/2p
8316	3104 311 12451	Cable 14p/340/14p
8317	3104 311 08191	Cable 12p/1200/12p
8405	3139 131 08821	Cable 30p/340/30p
8740	3139 131 08851	Cable 4p/560 820/2ft
8J02	3104 311 12521	Cable 13p/480/13p Wh
8M01	3139 131 08811	Cable 3p/680/3p
8M21	3104 311 07231	Cable 6p/560/6p
8M36	3104 311 08031	Cable 11p/480/11p
8M60	3139 131 08911	Cable 4p/680/4p
8P06	3139 131 08791	Cable30p/340/30p



5211	3139 128 78251	Loudsp. 8Ω 20W R
5212	3139 128 78511	Loudsp. 8Ω 20W L

Small Signal Board [B]

Various

1740	4822 267 10565	Connector 4p
1A10	2422 549 44377	Filter 45.75MHz
1G02	2422 025 18741	Connector 6p m
1H00	2422 543 01397	Xtal 27MHz 18pF
1I03	2422 026 05912	Socket CINCIN 6P
1I04	2422 026 05754	Socket CINCIN 6p f
1I05	2422 033 00552	Socket HDMI 19p f
1I06	2422 033 00552	Socket HDMI 19p f
1J02	4822 267 10636	Conn 13p
1LA0	2422 543 01443	Xtal 16MHz 20pF
1M01	2422 025 10768	Connector 3p m
1M02	4822 267 10618	Connector 7p
1M16	2422 025 10775	Connector 3p m
1M21	2422 025 08149	Connector 6p m
1M36	2422 025 10655	Connector 11p m
1M49	2422 025 18884	Connector 4p m
1M60	2422 025 09406	Connector 4p m
1P06	2422 025 18772	Connector 30p m
1T01	2422 549 00895	SAW 44MHz F4LB-HMA
1T04	3112 297 14221	Tuner TD1336O/FGHP
1T11	2422 543 01522	Xtal 25.140MHz 20pF
1U01	2422 086 00623	Fuse 3A T 125V



2A05	2020 552 96618	1nF 10% 50V 0402
2A07	2020 552 96623	2.2nF 10% 50V 0402
2A08	2020 552 96623	2.2nF 10% 50V 0402
2A09	2020 552 96623	2.2nF 10% 50V 0402
2A10	2238 787 15641	22nF 5% 16V 0402
2A11	2238 787 15641	22nF 5% 16V 0402
2A13	2238 787 15641	22nF 5% 16V 0402
2A14	2238 787 15641	22nF 5% 16V 0402
2A15	2238 787 15641	22nF 5% 16V 0402
2A16	2238 787 15641	22nF 5% 16V 0402
2A17	2238 787 15641	22nF 5% 16V 0402
2A18	2238 787 15641	22nF 5% 16V 0402
2A19	2020 552 96628	10nF 10% 16V 0402
2A21	2238 787 15641	22nF 5% 16V 0402
2A23	2020 552 96623	2.2nF 10% 50V 0402
2A24	2238 869 15101	100pF 5% 50V 0402
2A25	2238 869 15101	100pF 5% 50V 0402
2A26	2238 787 15641	22nF 5% 16V 0402
2A27	2238 787 15641	22nF 5% 16V 0402
2A29	2238 586 59812	100nF 20% 50V 0603
2A31	2238 787 15641	22nF 5% 16V 0402
2A32	2238 586 59812	100nF 20% 50V 0603
2A33	2222 780 15663	1μF 10% 0805
2A34	2222 780 15663	1μF 10% 0805
2A35	2238 586 59812	100nF 20% 50V 0603
2A37	4822 124 12108	100μF 20% 4V
2A38	2020 552 96618	1nF 10% 50V 0402
2A39	2238 586 59812	100nF 20% 50V 0603
2A40	2222 780 15663	1μF 10% 0805
2A41	2222 780 15663	1μF 10% 0805
2A42	4822 124 23237	22μF 6.3V
2A43	2238 586 59812	100nF 20% 50V 0603
2A44	2238 586 59812	100nF 20% 50V 0603
2A45	2238 586 59812	100nF 20% 50V 0603
2A47	2238 586 59812	100nF 20% 50V 0603
2A49	2020 552 96628	10nF 10% 16V 0402
2A50	2020 552 96628	10nF 10% 16V 0402
2A51	3198 035 03310	330pF 5% 50V 0402
2A52	2238 586 59812	100nF 20% 50V 0603
2A53	2020 552 96628	10nF 10% 16V 0402
2A54	2020 552 96628	10nF 10% 16V 0402
2A55	2020 552 96628	10nF 10% 16V 0402
2A56	2222 780 15663	1μF 10% 0805
2A57	2222 780 15663	1μF 10% 0805
2A58	2020 552 96628	10nF 10% 16V 0402
2A60	2222 780 15663	1μF 10% 0805
2A61	2222 780 15663	1μF 10% 0805
2A62	2238 586 59812	100nF 20% 50V 0603
2A63	2238 586 59812	100nF 20% 50V 0603
2A64	2238 586 59812	100nF 20% 50V 0603
2A65	2238 586 59812	100nF 20% 50V 0603
2A66	2222 780 15663	1μF 10% 0805
2A67	2222 780 15663	1μF 10% 0805
2A68	2222 780 15663	1μF 10% 0805
2A69	2222 780 15663	1μF 10% 0805
2A71	2222 780 15663	1μF 10% 0805
2A73	2222 780 15663	1μF 10% 0805
2A76	2222 780 15663	1μF 10% 0805

2A78	4822 124 12095	100μF 20% 16V
2A79	3198 034 03390	33pF 50V 0402
2A81	2238 586 59812	100nF 20% 50V 0603
2A83	4822 124 12095	100μF 20% 16V
2A84	3198 034 03390	33pF 50V 0402
2A86	2020 552 96618	1nF 10% 50V 0402
2A87	2222 780 15663	1μF 10% 0805
2A90	3198 035 14720	4.7nF 5% 25V 0402
2A92	2222 780 15663	1μF 10% 0805
2B10	2238 586 59812	100nF 20% 50V 0603
2B11	4822 124 81058	47μF 20% 4V
2B12	2238 586 59812	100nF 20% 50V 0603
2B13	2238 586 59812	100nF 20% 50V 0603
2B14	2238 586 59812	100nF 20% 50V 0603
2B15	2238 586 59812	100nF 20% 50V 0603
2B16	2238 586 59812	100nF 20% 50V 0603
2B17	2238 586 59812	100nF 20% 50V 0603
2B18	2238 586 59812	100nF 20% 50V 0603
2B19	2238 586 59812	100nF 20% 50V 0603
2B20	2238 586 59812	100nF 20% 50V 0603
2B21	2238 586 59812	100nF 20% 50V 0603
2B22	2238 586 59812	100nF 20% 50V 0603
2B23	2238 586 59812	100nF 20% 50V 0603
2B24	2238 586 59812	100nF 20% 50V 0603
2B25	2238 586 59812	100nF 20% 50V 0603
2B26	2238 586 59812	100nF 20% 50V 0603
2B31	2020 552 96628	10nF 10% 16V 0402
2B32	2238 586 59812	100nF 20% 50V 0603
2B33	2238 586 59812	100nF 20% 50V 0603
2B35	2238 586 59812	100nF 20% 50V 0603
2B36	2238 586 59812	100nF 20% 50V 0603
2B37	2238 586 59812	100nF 20% 50V 0603
2B38	2238 586 59812	100nF 20% 50V 0603
2B39	2238 586 59812	100nF 20% 50V 0603
2B40	4822 124 12108	100μF 20% 4V
2B41	4822 124 12108	100μF 20% 4V
2B45	2222 780 15663	1μF 10% 0805
2B46	2222 780 15663	1μF 10% 0805
2B50	2020 552 96628	10nF 10% 16V 0402
2B51	2020 552 96628	10nF 10% 16V 0402
2B52	2020 552 96628	10nF 10% 16V 0402
2B55	2020 552 96628	10nF 10% 16V 0402
2B56	3198 034 01580	1.5pF 1% 50V 0402
2B57	2238 869 15109	10pF 5% 50V 0402
2B58	2020 552 96628	10nF 10% 16V 0402
2B59	3198 034 01580	1.5pF 1% 50V 0402
2B60	2238 869 15109	10pF 5% 50V 0402
2B61	2020 552 96628	10nF 10% 16V 0402
2B62	3198 034 01580	1.5pF 1% 50V 0402
2B63	2238 869 15109	10pF 5% 50V 0402
2B64	2020 552 96628	10nF 10% 16V 0402
2B65	3198 034 01580	1.5pF 1% 50V 0402
2B66	2238 869 15109	10pF 5% 50V 0402
2B67	2020 552 96628	10nF 10% 16V 0402
2B68	3198 034 01580	1.5pF 1% 50V 0402
2B69	2238 869 15109	10pF 5% 50V 0402
2B70	2020 552 96628	10nF 10% 16V 0402
2B71	3198 034 01580	1.5pF 1% 50V 0402
2B72	2238 869 15109	10pF 5% 50V 0402
2B75	2020 552 96628	10nF 10% 16V 0402
2B76	2020 552 96628	10nF 10% 16V 0402
2B77	2020 552 96628	10nF 10% 16V 0402
2B78	2020 552 96628	10nF 10% 16V 0402
2B79	2020 552 96628	10nF 10% 16V 0402
2B80	2020 552 96628	10nF 10% 16V 0402
2C00	2238 586 59812	100nF 20% 50V 0603
2C01	2238 586 59812	100nF 20% 50V 0603
2C02	3198 035 14720	4.7nF 5% 25V 0402
2C03	2020 552 96628	10nF 10% 16V 0402
2C04	3198 035 14720	4.7nF 5% 25V 0402
2C05	2020 552 96628	10nF 10% 16V 0402
2C06	2238 586 59812	100nF 20% 50V 0603
2C07	2238 586 59812	100nF 20% 50V 0603
2C08	2020 552 00175	10μF 10% 6V3 0805
2C09	2238 586 59812	100nF 20% 50V 0603
2C10	2020 552 96618	1nF 10% 50V 0402
2C11	2020 552 00175	10μF 10% 6V3 0805
2C12	2238 586 59812	100nF 20% 50V 0603
2C13	2238 586 59812	100nF 20% 50V 0603
2C14	2238 586 59812	100nF 20% 50V 0603
2C15	2238 586 59812	100nF 20% 50V 0603
2C16	2020 552 96618	1n

2D03	3198 035 02210	220pF 5% 50V 0402	2I14	2238 869 15101	100pF 5% 50V 0402	2LN5	2238 586 59812	100nF 20% 50V 0603
2D11	2250 200 13667	2.2µF 10% 6.3V 0805	2I15	2238 869 15101	100pF 5% 50V 0402	2LN6	2238 586 59812	100nF 20% 50V 0603
2D14	4822 126 14585	100nF 10% 0805 50V	2I16	2238 869 15101	100pF 5% 50V 0402	2LN7	2238 586 59812	100nF 20% 50V 0603
2D17	4822 126 14585	100nF 10% 0805 50V	2I18	2238 869 15101	100pF 5% 50V 0402	2LN8	2238 586 59812	100nF 20% 50V 0603
2D19	4822 126 14585	100nF 10% 0805 50V	2I19	2238 869 15101	100pF 5% 50V 0402	2LP0	4822 124 12108	100µF 20% 4V
2D20	4822 126 14585	100nF 10% 0805 50V	2I20	2238 869 15101	100pF 5% 50V 0402	2LP2	2238 586 59812	100nF 20% 50V 0603
2D21	4822 126 14585	100nF 10% 0805 50V	2I21	2238 869 15101	100pF 5% 50V 0402	2LP3	2238 586 59812	100nF 20% 50V 0603
2D22	2020 021 00258	220µF 20% 25V	2I22	2238 869 15101	100pF 5% 50V 0402	2LP4	2238 586 59812	100nF 20% 50V 0603
2D23	2020 021 00258	220µF 20% 25V	2I23	2238 869 15101	100pF 5% 50V 0402	2LP7	4822 124 12108	100µF 20% 4V
2D26	2222 780 15663	1µF 10% 0805	2I53	2238 586 59812	100nF 20% 50V 0603	2LP8	2238 586 59812	100nF 20% 50V 0603
2D27	2222 780 15663	1µF 10% 0805	2J01	2238 586 59812	100nF 20% 50V 0603	2LP9	2238 586 59812	100nF 20% 50V 0603
2D28	2020 021 00258	220µF 20% 25V	2J03	2238 586 59812	100nF 20% 50V 0603	2LR0	2238 586 59812	100nF 20% 50V 0603
2D30	4822 051 30008	Jumper 0603	2J06	2238 586 59812	100nF 20% 50V 0603	2LR2	2238 586 59812	100nF 20% 50V 0603
2D31	4822 051 30008	Jumper 0603	2J08	2238 586 59812	100nF 20% 50V 0603	2LR4	2238 586 59812	100nF 20% 50V 0603
2D32	2020 552 96621	1.5nF 10% 50V 0402	2J10	2238 586 59812	100nF 20% 50V 0603	2LR5	2238 586 59812	100nF 20% 50V 0603
2D35	2020 552 96621	1.5nF 10% 50V 0402	2J13	2238 586 59812	100nF 20% 50V 0603	2LR6	2238 586 59812	100nF 20% 50V 0603
2D36	2020 552 96621	1.5nF 10% 50V 0402	2J16	2238 586 59812	100nF 20% 50V 0603	2LR8	2238 586 59812	100nF 20% 50V 0603
2D37	2020 552 96621	1.5nF 10% 50V 0402	2J18	2238 586 59812	100nF 20% 50V 0603	2LR9	2238 586 59812	100nF 20% 50V 0603
2D38	4822 126 14585	100nF 10% 0805 50V	2J20	2238 586 59812	100nF 20% 50V 0603	2LS5	2238 586 59812	100nF 20% 50V 0603
2D39	2020 552 96621	1.5nF 10% 50V 0402	2J21	2238 869 15101	100pF 5% 50V 0402	2LT0	2222 780 15663	1µF 10% 0805
2D40	2020 552 96621	1.5nF 10% 50V 0402	2J22	4822 117 13605	Jumper 0402	2M10	2020 552 96618	1nF 10% 50V 0402
2D41	4822 126 14585	100nF 10% 0805 50V	2J23	2238 869 15101	100pF 5% 50V 0402	2M11	2020 552 96618	1nF 10% 50V 0402
2D43	4822 126 14585	100nF 10% 0805 50V	2J30	2238 869 15101	100pF 5% 50V 0402	2M12	2020 552 96618	1nF 10% 50V 0402
2D45	4822 126 14585	100nF 10% 0805 50V	2J31	2238 869 15101	100pF 5% 50V 0402	2M13	2020 552 96618	1nF 10% 50V 0402
2D46	4822 126 14585	100nF 10% 0805 50V	2J37	2238 869 15101	100pF 5% 50V 0402	2M14	2020 552 96618	1nF 10% 50V 0402
2D47	2238 916 11552	1.5nF 5% 25V 0603	2J38	2238 869 15101	100pF 5% 50V 0402	2M15	2020 552 96623	2.2nF 10% 50V 0402
2D48	2238 916 11552	1.5nF 5% 25V 0603	2J40	2238 869 15109	10pF 5% 50V 0402	2M16	2020 552 96623	2.2nF 10% 50V 0402
2D49	2238 916 11552	1.5nF 5% 25V 0603	2J41	2238 869 15109	10pF 5% 50V 0402	2M17	2020 552 96623	2.2nF 10% 50V 0402
2D50	2238 916 11552	1.5nF 5% 25V 0603	2J42	2238 869 15109	10pF 5% 50V 0402	2M18	2020 552 96623	2.2nF 10% 50V 0402
2D51	2020 552 96618	1nF 10% 50V 0402	2J43	2238 869 15109	10pF 5% 50V 0402	2M19	2020 552 96618	1nF 10% 50V 0402
2D52	2020 021 00258	220µF 20% 25V	2J44	2238 869 15109	10pF 5% 50V 0402	2M80	2238 586 59812	100nF 20% 50V 0603
2D53	2020 552 96684	470nF 10% 25V 0805	2J45	2238 869 15109	10pF 5% 50V 0402	2M81	4822 117 13548	1kΩ 5% 0402
2D54	2020 552 96684	470nF 10% 25V 0805	2J46	2238 869 15109	10pF 5% 50V 0402	2M82	2238 869 15101	100pF 5% 50V 0402
2D55	2020 552 96621	1.5nF 10% 50V 0402	2J47	2238 869 15109	10pF 5% 50V 0402	2M83	2238 869 15101	100pF 5% 50V 0402
2D63	2238 787 15641	22nF 5% 16V 0402	2J48	2238 869 15109	10pF 5% 50V 0402	2M84	2238 869 15101	100pF 5% 50V 0402
2D64	3198 034 02280	2.2pF 1% 50V 0402	2J49	2238 869 15109	10pF 5% 50V 0402	2M85	2238 869 15101	100pF 5% 50V 0402
2D65	3198 034 02280	2.2pF 1% 50V 0402	2J50	3198 035 04710	470pF 50V 0402	2M86	2238 787 15641	22nF 5% 16V 0402
2D66	3198 034 02280	2.2pF 1% 50V 0402	2J51	3198 035 04710	470pF 50V 0402	2M87	2238 869 15101	100pF 5% 50V 0402
2D67	2238 586 59812	100nF 20% 50V 0603	2J61	4822 117 13605	Jumper 0402	2M91	2020 552 96628	10nF 10% 16V 0402
2D68	2238 586 59812	100nF 20% 50V 0603	2J64	2238 869 15101	100pF 5% 50V 0402	2M92	2222 780 15663	1µF 10% 0805
2D71	3198 034 04780	4.7pF 50V NP0 0402	2J69	2238 869 15101	100pF 5% 50V 0402	2M93	2020 552 96628	10nF 10% 16V 0402
2D72	3198 034 04780	4.7pF 50V NP0 0402	2J71	2238 586 59812	100nF 20% 50V 0603	2M94	2222 780 15663	1µF 10% 0805
2D73	4822 126 14519	22pF 5% 50V 0402	2J72	2238 869 15109	10pF 5% 50V 0402	2M95	2238 869 15101	100pF 5% 50V 0402
2D74	4822 126 14519	22pF 5% 50V 0402	2J73	2238 869 15109	10pF 5% 50V 0402	2M96	2238 869 15101	100pF 5% 50V 0402
2G10	4822 124 81058	47µF 20% 4V	2J76	2222 780 15663	1µF 10% 0805	2M97	2238 869 15101	100pF 5% 50V 0402
2G11	2238 586 59812	100nF 20% 50V 0603	2L01	2020 552 96618	1nF 10% 50V 0402	2P34	2238 586 59812	100nF 20% 50V 0603
2G12	2238 586 59812	100nF 20% 50V 0603	2L06	2222 780 15663	1µF 10% 0805	2P35	2238 586 59812	100nF 20% 50V 0603
2G13	2238 586 59812	100nF 20% 50V 0603	2L07	2238 586 59812	100nF 20% 50V 0603	2P80	2238 586 59812	100nF 20% 50V 0603
2G14	2238 586 59812	100nF 20% 50V 0603	2L08	2238 586 59812	100nF 20% 50V 0603	2P81	2238 586 59812	100nF 20% 50V 0603
2G15	2238 586 59812	100nF 20% 50V 0603	2L50	2238 586 59812	100nF 20% 50V 0603	2Q01	2222 780 15663	1µF 10% 0805
2G16	2238 586 59812	100nF 20% 50V 0603	2L51	2238 586 59812	100nF 20% 50V 0603	2Q03	2222 780 15663	1µF 10% 0805
2G17	2238 586 59812	100nF 20% 50V 0603	2L52	2238 586 59812	100nF 20% 50V 0603	2Q04	2238 586 59812	100nF 20% 50V 0603
2G18	2238 586 59812	100nF 20% 50V 0603	2L53	2238 586 59812	100nF 20% 50V 0603	2Q05	2238 586 59812	100nF 20% 50V 0603
2G19	2238 586 59812	100nF 20% 50V 0603	2L54	2238 586 59812	100nF 20% 50V 0603	2Q06	2238 586 59812	100nF 20% 50V 0603
2G21	2238 586 59812	100nF 20% 50V 0603	2L55	2020 552 96618	1nF 10% 50V 0402	2Q07	2238 586 59812	100nF 20% 50V 0603
2G23	2238 586 59812	100nF 20% 50V 0603	2L56	2238 586 59812	100nF 20% 50V 0603	2Q08	2238 586 59812	100nF 20% 50V 0603
2G24	2238 586 59812	100nF 20% 50V 0603	2L57	2238 586 59812	100nF 20% 50V 0603	2Q09	2238 586 59812	100nF 20% 50V 0603
2G25	2238 586 59812	100nF 20% 50V 0603	2L58	2238 586 59812	100nF 20% 50V 0603	2Q10	2238 586 59812	100nF 20% 50V 0603
2G26	2238 586 59812	100nF 20% 50V 0603	2L59	2020 552 96618	1nF 10% 50V 0402	2Q11	2238 586 59812	100nF 20% 50V 0603
2G27	2238 586 59812	100nF 20% 50V 0603	2L60	2238 586 59812	100nF 20% 50V 0603	2Q12	2238 586 59812	100nF 20% 50V 0603
2G28	2238 586 59812	100nF 20% 50V 0603	2L61	2020 552 96618	1nF 10% 50V 0402	2Q13	2238 586 59812	100nF 20% 50V 0603
2G29	2238 586 59812	100nF 20% 50V 0603	2L62	2020 552 96618	1nF 10% 50V 0402	2Q14	2238 586 59812	100nF 20% 50V 0603
2G30	4822 124 81058	47µF 20% 4V	2L63	2238 869 15101	100pF 5% 50V 0402	2Q15	2238 586 59812	100nF 20% 50V 0603
2G31	2238 586 59812	100nF 20% 50V 0603	2L64	2020 552 96618	1nF 10% 50V 0402	2Q16	2020 552 96628	10nF 10% 16V 0402
2G32	2238 586 59812	100nF 20% 50V 0603	2L65	3198 035 03320	3.3nF 5% 50V 0402	2Q17	2020 552 96628	10nF 10% 16V 0402
2G33	2238 586 59812	100nF 20% 50V 0603	2L66	3198 035 03320	3.3nF 5% 50V 0402	2Q18	2020 552 96628	10nF 10% 16V 0402
2G34	2238 586 59812	100nF 20% 50V 0603	2L80	2250 200 13667	2.2µF 10% 6.3V 0805	2Q19	2020 552 96628	10nF 10% 16V 0402
2G37	2238 586 59812	100nF 20% 50V 0603	2L81	2250 200 13667	2.2µF 10% 6.3V 0805	2Q20	2250 200 13672	4.7µF 10% 6.3V 0805
2G38	2238 586 59812	100nF 20% 50V 0603	2L82	2250 200 13667	2.2µF 10% 6.3V 0805	2Q21	2222 780 15663	1µF 10% 0805
2G39	2238 586 59812	100nF 20% 50V 0603	2L83	2250 200 13667	2.2µF 10% 6.3V 0805	2Q22	2250 200 13672	4.7µF 10% 6.3V 0805
2G40	2238 586 59812	100nF 20% 50V 0603	2L84	2238 586 59812	100nF 20% 50V 0603	2Q23	2222 780 15663	1µF 10% 0805
2G41	2222 780 15663	1µF 10% 0805	2L85	2238 586 59812	100nF 20% 50V 0603	2Q24	2238 586 59812	100nF 20% 50V 0603
2G42	2020 552 96618	1nF 10% 50V 0402	2L86	2238 586 59812	100nF 20% 50V 0603	2Q26	2238 586 59812	100nF 20% 50V 0603
2G50	4822 124 81058	47µF 20% 4V	2L87	2238 586 59812	100nF 20% 50V 0603	2Q27	2238 586 59812	100nF 20% 50V 0603
2H00	2238 869 15101	100pF 5% 50V 0402	2L88	2238 869 15101	100pF 5% 50V 0402	2Q28	2238 586 59812	100nF 20% 50V 0603
2H01	2020 552 96618	1nF 10% 50V 0402	2L89	2020 552 96618	1nF 10% 50V 0402	2Q30	2238 586 59812	100nF 20% 50V 0603
2H02	2238 586 59812	100nF 20% 50V 0603	2L90	2020 552 96618	1nF 10% 50V 0402	2Q32	2238 586 59812	100nF 20% 50V 0603
2H03	2222 780 15663	1µF 10% 0805	2L91	2020 552 96618	1nF 10% 50V 0402	2Q33	2238 586 59812	100nF 20% 50V 0603
2H06	2020 552 96618	1nF 10% 50V 0402	2L92	2020 552 96618	1nF 10% 50V 0402	2Q34	2238 586 59812	100nF 20% 50V 0603
2H07	2020 552 96618	1nF 10% 50V 0402	2LA0	4822 126 14519	22pF 5% 50V 0402	2Q35	2238 586 59812	100

2Q54	2238 586 59812	100nF 20% 50V 0603	2U23	2238 869 15101	100pF 5% 50V 0402	3A63	4822 117 13545	100Ω 1% 0402
2Q55	2238 586 59812	100nF 20% 50V 0603	2U24	2222 784 13681	22μF 10% 16V X5R 1812	3B50	4822 117 13597	330Ω 5% 0.01W 0402
2Q56	2020 552 96628	10nF 10% 16V 0402	2U25	2222 784 13681	22μF 10% 16V X5R 1812	3B51	4822 117 13597	330Ω 5% 0.01W 0402
2Q57	2020 552 96628	10nF 10% 16V 0402	2U26	2238 586 59812	100nF 20% 50V 0603	3B52	4822 117 13597	330Ω 5% 0.01W 0402
2Q58	2020 552 96628	10nF 10% 16V 0402	2U27	2020 552 96618	1nF 10% 50V 0402	3B53	4822 117 13548	1kΩ 5% 0402
2Q59	2020 552 96628	10nF 10% 16V 0402	2U28	2020 552 96618	1nF 10% 50V 0402	3B54	3198 031 01230	12kΩ 5% 0402
2Q60	2238 586 59812	100nF 20% 50V 0603	2U29	2020 552 96618	1nF 10% 50V 0402	3B56	2350 033 11339	4 x 33Ω 5%
2Q61	2020 552 96618	1nF 10% 50V 0402	2U30	2020 552 96618	1nF 10% 50V 0402	3B57	2350 033 11339	4 x 33Ω 5%
2Q62	2238 869 15101	100pF 5% 50V 0402	2U31	3198 035 03320	3.3nF 5% 50V 0402	3B58	2350 033 11339	4 x 33Ω 5%
2Q63	2238 586 59812	100nF 20% 50V 0603	2U32	3198 035 03320	3.3nF 5% 50V 0402	3B59	2350 033 11339	4 x 33Ω 5%
2Q64	2238 586 59812	100nF 20% 50V 0603	2U37	2020 552 96684	470nF 10% 25V 0805	3B60	4822 117 13545	100Ω 1% 0402
2Q65	2238 586 59812	100nF 20% 50V 0603	2U40	2222 780 15663	1μF 10% 0805	3B61	4822 117 13545	100Ω 1% 0402
2Q66	2238 586 59812	100nF 20% 50V 0603	2U41	2222 780 15663	1μF 10% 0805	3B62	2350 033 11339	4 x 33Ω 5%
2Q67	2020 552 96618	1nF 10% 50V 0402	2U46	2222 780 15663	1μF 10% 0805	3B65	4822 117 13543	470Ω 5% 0402
2Q69	2020 012 00028	470μF 20% 16V	2U48	2020 552 96628	10nF 10% 16V 0402	3B66	4822 117 13548	1kΩ 5% 0402
2Q70	2238 869 15101	100pF 5% 50V 0402	2U49	2238 869 15101	100pF 5% 50V 0402	3B67	4822 117 13543	470Ω 5% 0402
2Q71	2238 869 15101	100pF 5% 50V 0402	2U50	2020 552 96628	10nF 10% 16V 0402	3B68	4822 117 13548	1kΩ 5% 0402
2Q76	2020 552 96618	1nF 10% 50V 0402	2U51	2020 552 96628	10nF 10% 16V 0402	3B69	4822 117 13543	470Ω 5% 0402
2Q77	2020 552 96618	1nF 10% 50V 0402	2U52	2020 552 96628	10nF 10% 16V 0402	3B70	4822 117 13548	1kΩ 5% 0402
2Q82	2250 200 13672	4.7μF 10% 6.3V 0805	2U53	2238 586 59812	100nF 20% 50V 0603	3B71	4822 117 13543	470Ω 5% 0402
2Q83	2250 200 13672	4.7μF 10% 6.3V 0805	2U54	2238 586 59812	100nF 20% 50V 0603	3B72	4822 117 13548	1kΩ 5% 0402
2Q84	2020 552 96628	10nF 10% 16V 0402	2U55	2238 586 59812	100nF 20% 50V 0603	3B73	4822 117 13543	470Ω 5% 0402
2Q85	2020 552 96628	10nF 10% 16V 0402	2U58	2222 780 15663	1μF 10% 0805	3B74	4822 117 13548	1kΩ 5% 0402
2Q86	2020 552 96628	10nF 10% 16V 0402	2U61	2222 780 15663	1μF 10% 0805	3B75	4822 117 13543	470Ω 5% 0402
2Q87	2020 552 96618	1nF 10% 50V 0402	2U73	2238 787 15641	22nF 5% 16V 0402	3B76	4822 117 13548	1kΩ 5% 0402
2Q88	2020 552 96618	1nF 10% 50V 0402	2U85	3198 035 03320	3.3nF 5% 50V 0402	3B80	4822 117 13548	1kΩ 5% 0402
2Q89	2020 552 96618	1nF 10% 50V 0402	2V00	2020 552 96618	1nF 10% 50V 0402	3B81	4822 117 13606	10kΩ 5% 0.01W 0402
2Q90	2020 552 96618	1nF 10% 50V 0402	2V01	2020 552 96618	1nF 10% 50V 0402	3B82	4822 117 13548	1kΩ 5% 0402
2Q91	2020 552 96628	10nF 10% 16V 0402	2V02	2020 552 96618	1nF 10% 50V 0402	3B83	4822 117 13606	10kΩ 5% 0.01W 0402
2T10	2020 552 96628	10nF 10% 16V 0402	2V16	2238 586 59812	100nF 20% 50V 0603	3B84	3198 031 01590	15Ω 5% 0402
2T11	2020 552 96628	10nF 10% 16V 0402	2V17	2238 586 59812	100nF 20% 50V 0603	3B86	3198 031 03390	33Ω 1% 0402
2T12	2020 552 96628	10nF 10% 16V 0402	2V18	2238 586 59812	100nF 20% 50V 0603	3B87	3198 031 03390	33Ω 1% 0402
2T13	2020 552 96628	10nF 10% 16V 0402	2V19	2238 586 59812	100nF 20% 50V 0603	3B88	3198 031 03390	33Ω 1% 0402
2T14	2020 552 96628	10nF 10% 16V 0402	2V20	2238 586 59812	100nF 20% 50V 0603	3B89	3198 031 02290	22Ω 5% 0.1W 0402
2T15	2020 552 96628	10nF 10% 16V 0402	2V21	2238 586 59812	100nF 20% 50V 0603	3C00	4822 117 13545	100Ω 1% 0402
2T16	2222 780 15663	1μF 10% 0805	2V22	2238 586 59812	100nF 20% 50V 0603	3C01	4822 117 13545	100Ω 1% 0402
2T17	2020 552 96628	10nF 10% 16V 0402	2V23	2238 586 59812	100nF 20% 50V 0603	3C02	4822 117 13606	10kΩ 5% 0.01W 0402
2T18	2020 552 96628	10nF 10% 16V 0402	2V24	2238 586 59812	100nF 20% 50V 0603	3C03	3198 031 04730	47Ω 5% 0402
2T19	2020 552 96628	10nF 10% 16V 0402	2V25	2238 586 59812	100nF 20% 50V 0603	3C04	3198 031 04730	47Ω 5% 0402
2T20	2020 552 96628	10nF 10% 16V 0402	2V26	2238 586 59812	100nF 20% 50V 0603	3C05	4822 117 13545	100Ω 1% 0402
2T21	2020 552 96628	10nF 10% 16V 0402	2V27	2238 586 59812	100nF 20% 50V 0603	3C06	4822 117 13545	100Ω 1% 0402
2T22	2020 552 96628	10nF 10% 16V 0402	2V28	2238 586 59812	100nF 20% 50V 0603	3C07	4822 117 13606	10kΩ 5% 0.01W 0402
2T23	2238 586 59812	100nF 20% 50V 0603	2V29	2238 586 59812	100nF 20% 50V 0603	3C08	4822 117 11297	100kΩ 5% 0.1W
2T24	2222 780 15663	1μF 10% 0805	2V30	2238 586 59812	100nF 20% 50V 0603	3C09	4822 117 13548	1kΩ 5% 0402
2T25	2020 552 96628	10nF 10% 16V 0402	2V31	2238 586 59812	100nF 20% 50V 0603	3C10	3198 031 04720	4.7kΩ 5% 0402
2T26	3198 034 01510	150pF 1% 50V 0402	2V35	4822 124 81058	47μF 20% 4V	3C11	4822 117 13545	100Ω 1% 0402
2T27	3198 034 01510	150pF 1% 50V 0402	2V36	2238 869 15101	100pF 5% 50V 0402	3C12	4822 117 13545	100Ω 1% 0402
2T30	2020 552 96628	10nF 10% 16V 0402	2V37	2238 869 15101	100pF 5% 50V 0402	3C13	4822 117 13545	100Ω 1% 0402
2T31	2020 552 96628	10nF 10% 16V 0402	2V38	2238 869 15101	100pF 5% 50V 0402	3C14	4822 117 13545	100Ω 1% 0402
2T33	2020 552 96628	10nF 10% 16V 0402	2V39	2238 869 15101	100pF 5% 50V 0402	3C15	4822 117 13545	100Ω 1% 0402
2T34	2020 552 96628	10nF 10% 16V 0402	2V40	2238 869 15101	100pF 5% 50V 0402	3C16	4822 117 13545	100Ω 1% 0402
2T35	2020 552 96628	10nF 10% 16V 0402	2V41	2238 869 15101	100pF 5% 50V 0402	3C17	3198 031 04730	47Ω 5% 0402
2T36	2238 586 59812	100nF 20% 50V 0603	2V42	2238 869 15101	100pF 5% 50V 0402	3C18	3198 031 04730	47Ω 5% 0402
2T37	2238 586 59812	100nF 20% 50V 0603	2V43	2238 869 15101	100pF 5% 50V 0402	3C19	4822 117 13606	10kΩ 5% 0.01W 0402
2T38	2238 586 59812	100nF 20% 50V 0603	2V44	2238 869 15101	100pF 5% 50V 0402	3C20	4822 117 13545	100Ω 1% 0402
2T39	2238 586 59812	100nF 20% 50V 0603	2V45	2238 869 15101	100pF 5% 50V 0402	3C21	4822 117 13545	100Ω 1% 0402
2T40	2238 586 59812	100nF 20% 50V 0603				3C22	4822 117 13548	1kΩ 5% 0402
2T41	2238 586 59812	100nF 20% 50V 0603				3C23	3198 031 04720	4.7kΩ 5% 0402
2T42	2238 586 59812	100nF 20% 50V 0603				3C24	4822 117 11297	100kΩ 5% 0.1W
2T43	2238 586 59812	100nF 20% 50V 0603				3C25	4822 117 13606	10kΩ 5% 0.01W 0402
2T44	2238 586 59812	100nF 20% 50V 0603				3C26	3198 031 02290	22Ω 5% 0.1W 0402
2T45	2238 586 59812	100nF 20% 50V 0603				3C27	3198 031 02290	22Ω 5% 0.1W 0402
2T46	2238 586 59812	100nF 20% 50V 0603				3C28	4822 117 13606	10kΩ 5% 0.01W 0402
2T47	2238 586 59812	100nF 20% 50V 0603				3C30	4822 117 13545	100Ω 1% 0402
2T48	2238 586 59812	100nF 20% 50V 0603				3C31	4822 117 13545	100Ω 1% 0402
2T49	2238 586 59812	100nF 20% 50V 0603				3D01	4822 117 11297	100kΩ 5% 0.1W
2T50	2238 586 59812	100nF 20% 50V 0603				3D10	3198 031 04730	47Ω 5% 0402
2T53	4822 126 14519	22pF 5% 50V 0402				3D12	4822 117 13601	22kΩ 5% 0402
2T54	4822 126 14519	22pF 5% 50V 0402				3D13	3198 031 02720	2.7kΩ 5% 0.01W 0402
2T56	2020 552 96628	10nF 10% 16V 0402				3D14	3198 031 02240	220kΩ 5% 0.1W 0402
2T57	2222 780 15663	1μF 10% 0805				3D15	3198 031 04740	470kΩ 5% 0402
2T58	2020 552 96628	10nF 10% 16V 0402				3D16	4822 117 13602	2.2kΩ 5% 0.01W 0402
2T59	2222 780 15663	1μF 10% 0805				3D17	3198 031 02240	220kΩ 5% 0.1W 0402
2T60	2238 586 59812	100nF 20% 50V 0603				3D18	3198 031 04730	47Ω 5% 0402
2T61	2238 586 59812	100nF 20% 50V 0603				3D20	4822 117 13601	22kΩ 5% 0402
2T62	2222 780 15663	1μF 10% 0805				3D21	3198 031 02720	2.7kΩ 5% 0.01W 0402
2T63	2020 552 96628	10nF 10% 16V 0402				3D22	4822 117 13606	10kΩ 5% 0.01W 0402
2T64	2238 586 59812	100nF 20% 50V 0603				3D23	4822 117 13602	2.2kΩ 5% 0.01W 0402
2T65	3198 034 06890	68pF 50V 0402				3D24	4822 117 13606	10kΩ 5% 0.01W 0402
2T66	3198 034 06890	68pF 50V 0402				3D25	4822 117 13548	1kΩ 5% 0402
2U09	2238 869 15101	100pF 5% 50V 0402				3D26	4822 117 13602	2.2kΩ 5% 0.01W 0402
2U10	2238 586 59812	100nF 20% 50V 0603				3D34	2322 762 60332	3.3kΩ 5% 2512
2U11	2222 780 15663	1μF 10% 0805				3D35	4822 117 13548	1kΩ 5% 0402
2U12	2238 586 59812	100nF 20% 50V 0603				3D37	2322 762 60332	3.3kΩ 5% 2512
2U13	2238 586 59812	100nF 20% 50V 0603				3D38	4822 117 13548	1kΩ 5% 0402
2U14	2238 586 59812	100nF 20% 50V 0603				3D39	2350 033 11223	22kΩ 5%
2U15	2238 586 59812	100nF 20% 50V 0603				3D40	2350 033 11223	22kΩ 5%
2U16	2222 780 15663	1μF 10% 0805				3D42	3198 031 04730	47Ω 5% 0402
2U17	2222 784 13681	22μF 10% 16V X5R 1812				3D43	5322 117 11726	10Ω 5%
2U18	2238 586 59812	100nF 20% 50V 0603				3D44	23	

3D50	3198 031 03920	3.9kΩ 5% 0402	3H52	2322 706 75601	560Ω 1% 0402	3L39	2322 706 71002	1kΩ 1% 0402
3D51	3198 031 03920	3.9kΩ 5% 0402	3H53	2322 706 75601	560Ω 1% 0402	3L40	3198 031 03390	33Ω 1% 0402
3D54	3198 031 04730	47Ω 5% 0402	3H54	4822 117 13606	10kΩ 5% 0.01W 0402	3L41	3198 031 03390	33Ω 1% 0402
3D56	3198 031 01530	15kΩ 5% 0.01W 0402	3H55	4822 117 13606	10kΩ 5% 0.01W 0402	3L42	3198 031 03390	33Ω 1% 0402
3D57	3198 031 01530	15kΩ 5% 0.01W 0402	3H56	4822 117 13606	10kΩ 5% 0.01W 0402	3L43	3198 031 03390	33Ω 1% 0402
3D58	3198 031 06810	680Ω 5% 0.01W 0402	3H57	4822 117 13606	10kΩ 5% 0.01W 0402	3L44	3198 031 03390	33Ω 1% 0402
3D64	4822 117 13548	1kΩ 5% 0402	3H58	3198 031 02290	22Ω 5% 0.1W 0402	3L45	3198 031 03390	33Ω 1% 0402
3D65	4822 117 13548	1kΩ 5% 0402	3H69	4822 117 13606	10kΩ 5% 0.01W 0402	3L46	3198 031 03390	33Ω 1% 0402
3D67	3198 031 03920	3.9kΩ 5% 0402	3H70	3198 031 04720	4.7kΩ 5% 0402	3L47	3198 031 03390	33Ω 1% 0402
3D68	4822 117 11297	100kΩ 5% 0.1W	3H71	3198 031 04720	4.7kΩ 5% 0402	3L48	3198 031 03390	33Ω 1% 0402
3D69	3198 031 03920	3.9kΩ 5% 0402	3H72	4822 117 13545	100Ω 1% 0402	3L49	3198 031 03390	33Ω 1% 0402
3D70	4822 117 11297	100kΩ 5% 0.1W	3H73	3198 031 02290	22Ω 5% 0.1W 0402	3L50	3198 031 02290	22Ω 5% 0.1W 0402
3D71	4822 117 13606	10kΩ 5% 0.01W 0402	3H74	3198 031 06890	68Ω 5% 0402	3L51	4822 117 13545	100Ω 1% 0402
3D72	4822 117 13606	10kΩ 5% 0.01W 0402	3H75	4822 117 13545	100Ω 1% 0402	3L52	3198 031 02290	22Ω 5% 0.1W 0402
3D73	3198 031 05610	560Ω 5% 0.01W 0402	3H79	3198 031 02290	22Ω 5% 0.1W 0402	3L56	3198 031 02290	22Ω 5% 0.1W 0402
3D74	3198 031 05610	560Ω 5% 0.01W 0402	3H80	2350 033 11472	4x 4.7kΩ 5%	3L57	3198 031 02290	22Ω 5% 0.1W 0402
3D75	4822 117 13603	33kΩ 5% 0402	3H81	2350 033 11472	4x 4.7kΩ 5%	3L58	3198 031 02290	22Ω 5% 0.1W 0402
3D76	4822 117 13601	22kΩ 5% 0402	3H82	3198 031 01050	1MΩ 5% 0402	3L59	3198 031 02290	22Ω 5% 0.1W 0402
3D78	4822 117 13601	22kΩ 5% 0402	3H84	3198 031 04720	4.7kΩ 5% 0402	3L60	3198 031 02290	22Ω 5% 0.1W 0402
3D79	4822 117 13601	22kΩ 5% 0402	3H85	3198 031 04720	4.7kΩ 5% 0402	3L61	3198 031 02290	22Ω 5% 0.1W 0402
3D81	3198 031 06810	680Ω 5% 0.01W 0402	3H86	3198 031 04720	4.7kΩ 5% 0402	3L62	3198 031 02290	22Ω 5% 0.1W 0402
3D82	3198 031 04730	47Ω 5% 0402	3H88	3198 031 04720	4.7kΩ 5% 0402	3L63	3198 031 02290	22Ω 5% 0.1W 0402
3D83	3198 031 04730	47Ω 5% 0402	3H90	3198 031 04720	4.7kΩ 5% 0402	3L64	3198 031 02290	22Ω 5% 0.1W 0402
3D84	3198 031 04730	47Ω 5% 0402	3H94	3198 031 04720	4.7kΩ 5% 0402	3L65	3198 031 02290	22Ω 5% 0.1W 0402
3D85	3198 031 04730	47Ω 5% 0402	3H95	4822 117 13597	330Ω 5% 0.01W 0402	3L66	3198 031 02290	22Ω 5% 0.1W 0402
3D86	4822 117 11297	100kΩ 5% 0.1W	3H97	3198 031 04720	4.7kΩ 5% 0402	3L67	3198 031 02290	22Ω 5% 0.1W 0402
3D87	3198 031 04730	47Ω 5% 0402	3H98	4822 117 13545	100Ω 1% 0402	3L68	3198 031 02290	22Ω 5% 0.1W 0402
3D88	4822 117 13603	33kΩ 5% 0402	3H99	4822 117 13545	100Ω 1% 0402	3L69	3198 031 02290	22Ω 5% 0.1W 0402
3D89	4822 117 13601	22kΩ 5% 0402	3I00	3198 031 07590	75Ω 5% 0402	3L70	3198 031 02290	22Ω 5% 0.1W 0402
3D91	4822 117 13603	33kΩ 5% 0402	3I01	3198 031 07590	75Ω 5% 0402	3L71	3198 031 02290	22Ω 5% 0.1W 0402
3G01	4822 117 11297	100kΩ 5% 0.1W	3I02	3198 031 07590	75Ω 5% 0402	3L75	4822 117 11373	100Ω 1% 0805
3G02	4822 117 13606	10kΩ 5% 0.01W 0402	3I03	3198 031 01510	150Ω 5% 0.01W 0402	3L76	4822 117 13606	10kΩ 5% 0.01W 0402
3G03	4822 117 13603	33kΩ 5% 0402	3I04	3198 031 01510	150Ω 5% 0.01W 0402	3L77	4822 117 13545	100Ω 1% 0402
3G04	4822 117 13606	10kΩ 5% 0.01W 0402	3I06	3198 031 01510	150Ω 5% 0.01W 0402	3L78	4822 117 13606	10kΩ 5% 0.01W 0402
3G05	4822 117 13543	470Ω 5% 0402	3I07	3198 031 01510	150Ω 5% 0.01W 0402	3L80	4822 117 13545	100Ω 1% 0402
3G08	3198 031 06890	68Ω 5% 0402	3I08	3198 031 01510	150Ω 5% 0.01W 0402	3L81	4822 117 13606	10kΩ 5% 0.01W 0402
3G09	3198 031 06890	68Ω 5% 0402	3I09	4822 117 11297	100kΩ 5% 0.1W	3L84	4822 117 13606	10kΩ 5% 0.01W 0402
3G10	3198 031 06890	68Ω 5% 0402	3I0A	4822 117 11297	100kΩ 5% 0.1W	3L85	4822 117 13606	10kΩ 5% 0.01W 0402
3G11	3198 031 06890	68Ω 5% 0402	3I0B	3198 031 01510	150Ω 5% 0.01W 0402	3L89	3198 031 02290	22Ω 5% 0.1W 0402
3G12	3198 031 06890	68Ω 5% 0402	3I0C	4822 117 11297	100kΩ 5% 0.1W	3L90	4822 117 13548	1kΩ 5% 0402
3G13	3198 031 06890	68Ω 5% 0402	3I0D	3198 031 01510	150Ω 5% 0.01W 0402	3L91	3198 031 03390	33Ω 1% 0402
3G14	3198 031 06890	68Ω 5% 0402	3I0E	4822 117 11297	100kΩ 5% 0.1W	3L92	3198 031 03390	33Ω 1% 0402
3G15	3198 031 06890	68Ω 5% 0402	3I0H	3198 031 07590	75Ω 5% 0402	3L93	3198 031 03390	33Ω 1% 0402
3G16	3198 031 06890	68Ω 5% 0402	3I0I	3198 031 01510	150Ω 5% 0.01W 0402	3L94	3198 031 03390	33Ω 1% 0402
3G17	3198 031 06890	68Ω 5% 0402	3I0J	3198 031 07590	75Ω 5% 0402	3L95	3198 031 03390	33Ω 1% 0402
3G18	3198 031 06890	68Ω 5% 0402	3I0K	3198 031 01510	150Ω 5% 0.01W 0402	3L96	3198 031 03390	33Ω 1% 0402
3G19	4822 117 13545	100Ω 1% 0402	3I0L	3198 031 07590	75Ω 5% 0402	3L97	3198 031 03390	33Ω 1% 0402
3G22	4822 117 13545	100Ω 1% 0402	3I0M	3198 031 01510	150Ω 5% 0.01W 0402	3L98	3198 031 03390	33Ω 1% 0402
3G24	4822 117 13545	100Ω 1% 0402	3I10	4822 117 13545	100Ω 1% 0402	3L99	3198 031 02290	22Ω 5% 0.1W 0402
3G28	4822 117 13606	10kΩ 5% 0.01W 0402	3I11	4822 117 13545	100Ω 1% 0402	3LA0	4822 117 13606	10kΩ 5% 0.01W 0402
3G29	4822 117 13606	10kΩ 5% 0.01W 0402	3I12	3198 031 01510	150Ω 5% 0.01W 0402	3LA2	4822 117 13606	10kΩ 5% 0.01W 0402
3G30	4822 117 13546	47Ω 5% 0402	3I13	3198 031 07590	75Ω 5% 0402	3LA3	4822 117 13606	10kΩ 5% 0.01W 0402
3G31	4822 117 13546	47Ω 5% 0402	3I68	4822 117 13596	220Ω 5% 0.01W 0402	3LA4	4822 117 13606	10kΩ 5% 0.01W 0402
3G33	4822 117 13546	47Ω 5% 0402	3I69	3198 031 01210	120Ω 5% 0.01W 0402	3LA5	4822 117 13548	1kΩ 5% 0402
3G36	4822 117 13546	47Ω 5% 0402	3J01	3198 031 01210	120Ω 5% 0.01W 0402	3LA7	4822 117 13606	10kΩ 5% 0.01W 0402
3G37	4822 117 13606	10kΩ 5% 0.01W 0402	3J07	3198 031 06890	68Ω 5% 0402	3LA8	4822 117 13606	10kΩ 5% 0.01W 0402
3G42	4822 117 13546	47Ω 5% 0402	3J12	3198 031 01210	120Ω 5% 0.01W 0402	3LA9	4822 117 13606	10kΩ 5% 0.01W 0402
3G43	4822 117 13545	100Ω 1% 0402	3J13	3198 031 01210	120Ω 5% 0.01W 0402	3LB1	4822 117 13606	10kΩ 5% 0.01W 0402
3G44	4822 117 13546	47Ω 5% 0402	3J25	3198 031 04730	47Ω 5% 0402	3LB2	4822 117 13606	10kΩ 5% 0.01W 0402
3G45	4822 117 13545	100Ω 1% 0402	3J30	4822 117 13545	100Ω 1% 0402	3LB3	4822 117 13606	10kΩ 5% 0.01W 0402
3G46	4822 117 13545	100Ω 1% 0402	3J31	4822 117 13545	100Ω 1% 0402	3LB4	4822 117 13606	10kΩ 5% 0.01W 0402
3G47	4822 117 13545	100Ω 1% 0402	3J32	4822 117 13606	10kΩ 5% 0.01W 0402	3LB5	4822 117 13606	10kΩ 5% 0.01W 0402
3G52	4822 117 13597	330Ω 5% 0.01W 0402	3J33	3198 031 04720	4.7kΩ 5% 0402	3LB7	4822 117 13606	10kΩ 5% 0.01W 0402
3G53	4822 117 13597	330Ω 5% 0.01W 0402	3J35	4822 117 13602	2.2kΩ 5% 0.01W 0402	3LB8	4822 117 13606	10kΩ 5% 0.01W 0402
3G54	4822 117 13597	330Ω 5% 0.01W 0402	3J36	4822 117 13545	100Ω 1% 0402	3LB9	4822 117 13606	10kΩ 5% 0.01W 0402
3G55	2350 033 11689	4x 68Ω 5% Netw.	3J37	4822 117 13545	100Ω 1% 0402	3LC0	4822 117 13606	10kΩ 5% 0.01W 0402
3G56	2350 033 11689	4x 68Ω 5% Netw.	3J38	4822 117 13606	10kΩ 5% 0.01W 0402	3LC2	3198 031 02730	27kΩ 5% 0402
3G57	2350 033 11689	4x 68Ω 5% Netw.	3J39	3198 031 04720	4.7kΩ 5% 0402	3LC3	4822 117 13606	10kΩ 5% 0.01W 0402
3G58	2350 033 11689	4x 68Ω 5% Netw.	3J43	4822 117 13546	47Ω 5% 0402	3LC4	4822 117 13606	10kΩ 5% 0.01W 0402
3G59	2350 033 11689	4x 68Ω 5% Netw.	3J45	4822 117 13602	2.2kΩ 5% 0.01W 0402	3LC5	4822 117 11297	100kΩ 5% 0.1W
3G60	2350 033 11689	4x 68Ω 5% Netw.	3J51	4822 117 13545	100Ω 1% 0402	3LC6	3198 031 04720	4.7kΩ 5% 0402
3G61	4822 117 13545	100Ω 1% 0402	3J52	3198 031 04720	4.7kΩ 5% 0402	3LC7	3198 031 04720	4.7kΩ 5% 0402
3G62	4822 117 13545	100Ω 1% 0402	3J55	4822 117 11297	100kΩ 5% 0.1W	3LC9	4822 117 13606	10kΩ 5% 0.01W 0402
3H02	3198 031 06890	68Ω 5% 0402	3J56	4822 117 11297	100kΩ 5% 0.1W	3LD0	4822 117 13606	10kΩ 5% 0.01W 0402
3H04	3198 031 01820	1.8kΩ 5% 0.01W 0402	3J86	4822 117 13602	2.2kΩ 5% 0.01W 0402	3LD1	4822 117 13606	10kΩ 5% 0.01W 0402
3H05	3198 031 01820	1.8kΩ 5% 0.01W 0402	3J88	3198 031 04720	4.7kΩ 5% 0402	3LD2	4822 117 13606	10kΩ 5% 0.01W 0402
3H06	3198 031 02290	22Ω 5% 0.1W 0402	3J91	4822 117 13545	100Ω 1% 0402	3LD3	4822 117 13606	10kΩ 5% 0.01W 0402
3H07	3198 031 02290	22Ω 5% 0.1W 0402	3J92	3198 031 04730	47Ω 5% 0402	3LD4	4822 117 13606	10kΩ 5% 0.01W 0402
3H08	3198 031 04720	4.7kΩ 5% 0402	3J99	4822 117 13546	47Ω 5% 0402	3LD5	4822 117 13606	10kΩ 5% 0.01W 0402
3H10	3198 031 04720	4.7kΩ 5% 0402	3JA2	3198 031 01210	120Ω 5% 0.01W 0402	3LD6	4822 117 13606	10kΩ 5% 0.01W 0402
3H11	3198 031 04720	4.7kΩ 5% 0402	3L00	4822 117 11297	100kΩ 5% 0.1W	3LD7	4822 117 13606	10kΩ 5% 0.01W 0402
3H16	3198 031 04720	4.7kΩ 5% 0402	3L01	4822 117 11297	100kΩ 5% 0.1W	3LD8	4822 117 13606	10kΩ 5% 0.01W 0402
3H17	3198 031 04720	4.7kΩ 5% 0402	3L02	4822 117 13606	10kΩ 5% 0.01W 0402	3LE1	4822 117 11373	100Ω 1% 0805
3H18	3198 031 04720	4.7kΩ 5% 0402	3L03	3198 031 04740	470kΩ			

3LG6	4822 117 13545	100Ω 1% 0402	3P86	4822 117 13545	100Ω 1% 0402	3U24	4822 051 30109	10Ω 5% 0.062W
3LG7	4822 117 13545	100Ω 1% 0402	3P88	4822 117 13606	10kΩ 5% 0.01W 0402	3U25	4822 117 13613	2.2Ω 5% 0603
3LG8	4822 117 13545	100Ω 1% 0402	3Q02	2350 033 11689	4x 68Ω 5% Netw.	3U26	4822 051 30008	Jumper 0603
3LG9	4822 117 13545	100Ω 1% 0402	3Q03	3198 031 04720	4.7kΩ 5% 0402	3U27	4822 051 30109	10Ω 5% 0.062W
3LH0	4822 117 13545	100Ω 1% 0402	3Q04	3198 031 04720	4.7kΩ 5% 0402	3U28	4822 117 13613	2.2Ω 5% 0603
3LH1	4822 117 13545	100Ω 1% 0402	3Q05	2350 033 11689	4x 68Ω 5% Netw.	3U29	4822 117 13548	1kΩ 5% 0402
3LH2	4822 117 11373	100Ω 1% 0805	3Q07	2350 033 11689	4x 68Ω 5% Netw.	3U30	4822 117 13548	1kΩ 5% 0402
3LH3	4822 117 13545	100Ω 1% 0402	3Q08	2350 033 11689	4x 68Ω 5% Netw.	3U32	4822 117 13606	10kΩ 5% 0.01W 0402
3LH4	4822 117 13545	100Ω 1% 0402	3Q09	3198 031 03390	33Ω 1% 0402	3U33	4822 117 13606	10kΩ 5% 0.01W 0402
3LH5	4822 117 13606	10kΩ 5% 0.01W 0402	3Q10	4822 117 13545	100Ω 1% 0402	3U34	4822 117 13606	10kΩ 5% 0.01W 0402
3LH6	4822 117 13606	10kΩ 5% 0.01W 0402	3Q11	4822 117 13545	100Ω 1% 0402	3U35	4822 117 13601	22kΩ 5% 0402
3LH7	4822 117 11373	100Ω 1% 0805	3Q12	4822 117 13545	100Ω 1% 0402	3U37	2322 706 74701	47Ω 1% 0402
3LH8	4822 117 13545	100Ω 1% 0402	3Q13	4822 117 13545	100Ω 1% 0402	3U38	3198 031 06820	6.8kΩ 5% 0.01W 0402
3LH9	4822 117 13545	100Ω 1% 0402	3Q14	4822 117 13545	100Ω 1% 0402	3U39	4822 117 11297	100kΩ 5% 0.1W
3LJ0	4822 117 13545	100Ω 1% 0402	3Q15	4822 117 13545	100Ω 1% 0402	3U42	3198 031 04730	47Ω 5% 0402
3LJ1	4822 117 13545	100Ω 1% 0402	3Q16	3198 031 01530	15kΩ 5% 0.01W 0402	3U44	3198 031 04730	47Ω 5% 0402
3LJ2	4822 117 13606	10kΩ 5% 0.01W 0402	3Q17	3198 031 01530	15kΩ 5% 0.01W 0402	3U47	4822 117 13545	100Ω 1% 0402
3LJ3	4822 117 13606	10kΩ 5% 0.01W 0402	3Q18	3198 031 01530	15kΩ 5% 0.01W 0402	3U48	4822 117 13545	100Ω 1% 0402
3LJ5	4822 117 13545	100Ω 1% 0402	3Q19	2122 662 00166	PTC 0.4Ω 6V 3216	3U54	3198 031 01090	10Ω 5% 0.01W 0402
3LJ6	4822 117 13545	100Ω 1% 0402	3Q20	3198 031 02290	22Ω 5% 0.1W 0402	3U55	4822 117 13606	10kΩ 5% 0.01W 0402
3LJ7	4822 117 13545	100Ω 1% 0402	3Q21	3198 031 02290	22Ω 5% 0.1W 0402	3U56	4822 117 13548	1kΩ 5% 0402
3LJ8	4822 117 13545	100Ω 1% 0402	3Q22	4822 117 13606	10kΩ 5% 0.01W 0402	3U82	3198 031 06820	6.8kΩ 5% 0.01W 0402
3LJ9	4822 117 13545	100Ω 1% 0402	3Q23	3198 031 01530	15kΩ 5% 0.01W 0402	3U83	3198 031 06820	6.8kΩ 5% 0.01W 0402
3LK0	4822 117 13545	100Ω 1% 0402	3Q25	2350 033 11689	4x 68Ω 5% Netw.	3U85	4822 117 13606	10kΩ 5% 0.01W 0402
3LK1	4822 117 13545	100Ω 1% 0402	3Q26	2350 033 11689	4x 68Ω 5% Netw.	3U86	4822 117 13606	10kΩ 5% 0.01W 0402
3LK2	4822 117 13545	100Ω 1% 0402	3Q27	3198 031 04720	4.7kΩ 5% 0402	3U87	4822 117 13606	10kΩ 5% 0.01W 0402
3LK3	4822 117 13545	100Ω 1% 0402	3Q28	2350 033 11689	4x 68Ω 5% Netw.	3U88	4822 117 13545	100Ω 1% 0402
3LK5	4822 117 13545	100Ω 1% 0402	3Q29	3198 031 05620	5.6kΩ 5% 0.01W 0402	3U89	4822 117 13606	10kΩ 5% 0.01W 0402
3LK6	4822 117 13545	100Ω 1% 0402	3Q34	2350 033 11689	4x 68Ω 5% Netw.	3U90	4822 117 13606	10kΩ 5% 0.01W 0402
3LK7	4822 117 13545	100Ω 1% 0402	3Q35	2350 033 11339	4 x 33Ω 5%	3U91	4822 117 13606	10kΩ 5% 0.01W 0402
3LK8	4822 117 13545	100Ω 1% 0402	3Q36	2350 033 11339	4 x 33Ω 5%	3U92	4822 117 13606	10kΩ 5% 0.01W 0402
3LK9	4822 117 13545	100Ω 1% 0402	3Q37	2350 033 11339	4 x 33Ω 5%	3U93	4822 117 13606	10kΩ 5% 0.01W 0402
3LL0	4822 117 13545	100Ω 1% 0402	3Q38	2350 033 11339	4 x 33Ω 5%	3U94	3198 031 03320	3.3kΩ 5% 0402
3LL1	4822 117 13545	100Ω 1% 0402	3Q39	3198 031 03390	33Ω 1% 0402	3U95	4822 117 13602	2.2kΩ 5% 0.01W 0402
3LL2	4822 117 13545	100Ω 1% 0402	3Q40	3198 031 03390	33Ω 1% 0402	3U96	4822 117 13601	22kΩ 5% 0402
3LL3	4822 117 13545	100Ω 1% 0402	3Q41	3198 031 03390	33Ω 1% 0402	3U97	3198 031 03320	3.3kΩ 5% 0402
3LL4	4822 117 13545	100Ω 1% 0402	3Q44	2350 033 11689	4x 68Ω 5% Netw.	3UA1	3198 031 03320	3.3kΩ 5% 0402
3LL5	4822 117 13545	100Ω 1% 0402	3Q48	4822 117 13545	100Ω 1% 0402	3UA3	4822 117 13602	2.2kΩ 5% 0.01W 0402
3LL6	4822 117 13545	100Ω 1% 0402	3Q52	4822 117 13545	100Ω 1% 0402	3UA4	2322 706 71002	1kΩ 1% 0402
3LL7	4822 117 13545	100Ω 1% 0402	3T10	2322 762 60479	47Ω 5% 2512	3UA5	2322 706 76809	68Ω 1% 0402 RC32
3LL8	4822 117 13597	330Ω 5% 0.01W 0402	3T15	3198 031 04720	4.7kΩ 5% 0402	3UA7	2322 706 71002	1kΩ 1% 0402
3LL9	4822 117 13596	220Ω 5% 0.01W 0402	3T18	3198 031 04720	4.7kΩ 5% 0402	3UA8	3198 031 06890	68Ω 5% 0402
3LM0	4822 117 11373	100Ω 1% 0805	3T20	2322 762 60479	47Ω 5% 2512	3UA9	3198 031 06890	68Ω 5% 0402
3LM2	4822 117 11373	100Ω 1% 0805	3T21	4822 117 11297	100kΩ 5% 0.1W	3V00	3198 031 02290	22Ω 5% 0.1W 0402
3LM3	4822 117 11373	100Ω 1% 0805	3T22	4822 117 13596	220Ω 5% 0.01W 0402	3V01	3198 031 02290	22Ω 5% 0.1W 0402
3LM4	4822 117 11373	100Ω 1% 0805	3T23	4822 117 13596	220Ω 5% 0.01W 0402	3V02	3198 031 02290	22Ω 5% 0.1W 0402
3LM5	4822 051 20109	10Ω 5% 0.1W	3T25	4822 117 13602	2.2kΩ 5% 0.01W 0402	3V03	3198 031 02290	22Ω 5% 0.1W 0402
3LM7	4822 117 11373	100Ω 1% 0805	3T27	4822 117 13548	1kΩ 5% 0402	3V04	3198 031 02290	22Ω 5% 0.1W 0402
3LN0	4822 117 11373	100Ω 1% 0805	3T28	4822 117 13602	2.2kΩ 5% 0.01W 0402	3V05	3198 031 02290	22Ω 5% 0.1W 0402
3LN1	4822 117 11373	100Ω 1% 0805	3T29	4822 117 13548	1kΩ 5% 0402	3V06	3198 031 02290	22Ω 5% 0.1W 0402
3LN2	4822 117 11373	100Ω 1% 0805	3T35	2350 033 11689	4x 68Ω 5% Netw.	3V07	3198 031 02290	22Ω 5% 0.1W 0402
3LN3	4822 117 11373	100Ω 1% 0805	3T36	2350 033 11689	4x 68Ω 5% Netw.	3V08	3198 031 02290	22Ω 5% 0.1W 0402
3LN4	4822 117 11373	100Ω 1% 0805	3T37	2350 033 11689	4x 68Ω 5% Netw.	3V09	3198 031 02290	22Ω 5% 0.1W 0402
3LN5	4822 117 11373	100Ω 1% 0805	3T38	2322 706 73303	33kΩ 5% 0402	3V10	3198 031 02290	22Ω 5% 0.1W 0402
3LN6	4822 117 11373	100Ω 1% 0805	3T39	2322 706 73303	33kΩ 5% 0402	3V11	3198 031 02290	22Ω 5% 0.1W 0402
3LN7	4822 117 11373	100Ω 1% 0805	3T40	4822 117 13548	1kΩ 5% 0402	3V12	3198 031 02290	22Ω 5% 0.1W 0402
3LQ6	4822 117 11373	100Ω 1% 0805	3T41	4822 117 13596	220Ω 5% 0.01W 0402	3V13	3198 031 02290	22Ω 5% 0.1W 0402
3LR0	3198 031 03390	33Ω 1% 0402	3T42	3198 031 08220	8.2kΩ 5% 0.5W	3V14	3198 031 02290	22Ω 5% 0.1W 0402
3LR1	3198 031 03390	33Ω 1% 0402	3T43	4822 117 13548	1kΩ 5% 0402	3V15	3198 031 02290	22Ω 5% 0.1W 0402
3LR2	4822 117 13606	10kΩ 5% 0.01W 0402	3T44	4822 117 13596	220Ω 5% 0.01W 0402	3V16	3198 031 02290	22Ω 5% 0.1W 0402
3LR3	4822 117 11373	100Ω 1% 0805	3T45	3198 031 04730	47Ω 5% 0402	3V17	3198 031 02290	22Ω 5% 0.1W 0402
3LR4	4822 117 13606	10kΩ 5% 0.01W 0402	3T46	3198 031 04730	47Ω 5% 0402	3V18	3198 031 02290	22Ω 5% 0.1W 0402
3LR9	2350 033 11339	4 x 33Ω 5%	3T47	4822 117 13548	1kΩ 5% 0402	3V19	3198 031 02290	22Ω 5% 0.1W 0402
3LS0	2350 033 11339	4 x 33Ω 5%	3T48	3198 031 04720	4.7kΩ 5% 0402	3V20	3198 031 02290	22Ω 5% 0.1W 0402
3LS1	2350 033 11339	4 x 33Ω 5%	3T49	3198 031 04730	47Ω 5% 0402	3V21	3198 031 02290	22Ω 5% 0.1W 0402
3LS2	3198 031 06810	680Ω 5% 0.01W 0402	3T50	3198 031 04730	47Ω 5% 0402	3V22	3198 031 02290	22Ω 5% 0.1W 0402
3LT5	4822 117 13606	10kΩ 5% 0.01W 0402	3T51	4822 117 13545	100Ω 1% 0402	3V23	3198 031 02290	22Ω 5% 0.1W 0402
3LT7	4822 117 11297	100kΩ 5% 0.1W	3T52	4822 117 13545	100Ω 1% 0402	3V24	4822 117 13596	220Ω 5% 0.01W 0402
3LT9	3198 031 04730	47Ω 5% 0402	3T57	4822 117 13605	Jumper 0402	3V25	4822 117 13596	220Ω 5% 0.01W 0402
3LU0	4822 117 13606	10kΩ 5% 0.01W 0402	3T58	4822 117 13605	Jumper 0402	3V32	3198 031 02290	22Ω 5% 0.1W 0402
3LU1	4822 117 13606	10kΩ 5% 0.01W 0402	3U00	4822 117 13603	33kΩ 5% 0402	3V33	3198 031 02290	22Ω 5% 0.1W 0402
3LU2	4822 117 13606	10kΩ 5% 0.01W 0402	3U01	4822 117 13603	33kΩ 5% 0402	3V34	3198 031 02290	22Ω 5% 0.1W 0402
3LU7	4822 117 13602	2.2kΩ 5% 0.01W 0402	3U02	4822 117 13596	220Ω 5% 0.01W 0402	3V35	3198 031 02290	22Ω 5% 0.1W 0402
3LU8	4822 117 13548	1kΩ 5% 0402	3U03	4822 117 13606	10kΩ 5% 0.01W 0402	3V36	3198 031 02290	22Ω 5% 0.1W 0402
3LV7	4822 117 13606	10kΩ 5% 0.01W 0402	3U04	4822 117 13601	22kΩ 5% 0402	3V37	3198 031 02290	22Ω 5% 0.1W 0402
3LV8	3198 031 02730	27kΩ 5% 0402	3U05	4822 117 13596	220Ω 5% 0.01W 0402	3V38	3198 031 02290	22Ω 5% 0.1W 0402
3M00	4822 117 13606	10kΩ 5% 0.01W 0402	3U06	3198 031 03930	39kΩ 5% 0402	3V39	3198 031 02290	22Ω 5% 0.1W 0402
3M02	4822 117 13606	10kΩ 5% 0.01W 0402	3U07	3198 031 06820	6.8kΩ 5% 0.01W 0402	3V40	3198 031 02290	22Ω 5% 0.1W 0402
3M04	4822 117 13545	100Ω 1% 0402	3U08	3198 031 03320	3.3kΩ 5% 0402	3V41	3198 031 02290	22Ω 5% 0.1W 0402
3M50	4822 117 13545	100Ω 1% 0402	3U09	3198 031 03320	3.3kΩ 5% 0402	3V42	3198 031 02290	22Ω 5% 0.1W 0402
3M51	4822 117 13545	100Ω 1% 0402	3U10	4822 117 13548	1kΩ 5% 0402	3V43	3198 031 02290	22Ω 5% 0.1W 0402
3M52	4822 117 13605	Jumper 0402	3U11	4822 051 30221	220Ω 5% 0.062W	3V78	4822 117 13548	1kΩ 5% 0402
3M53	4822 117 13605	Jumper 0402	3U12	4822 117 13548	1kΩ 5% 0402	9A10	4822 051 20008	Jumper 0805
3M54	3198 031 01090	10Ω 5% 0.01W 0402	3U13	3198 031 06820	6.8kΩ 5% 0.01W 0402	9A19	4822 117 13605	Jumper 0402
3M71	4822 117 13606	10kΩ 5% 0.01W 0402	3U14	3198 031 06820	6.8kΩ 5% 0.01W 0402	9B10		

9H03	4822 117 13605	Jumper 0402
9H05	4822 117 13605	Jumper 0402
9H06	4822 117 13605	Jumper 0402
9H07	4822 117 13605	Jumper 0402
9H08	4822 117 13605	Jumper 0402
9H13	4822 117 13605	Jumper 0402
9H15	4822 117 13605	Jumper 0402
9H16	4822 117 13605	Jumper 0402
9J22	4822 117 13605	Jumper 0402
9J23	4822 117 13605	Jumper 0402
9J26	4822 117 13605	Jumper 0402
9J31	4822 051 20008	Jumper 0805
9J34	4822 117 13605	Jumper 0402
9J40	4822 117 13605	Jumper 0402
9LA0	4822 117 13605	Jumper 0402
9LA1	4822 117 13605	Jumper 0402
9LA8	4822 117 13605	Jumper 0402
9LA9	4822 117 13605	Jumper 0402
9M09	4822 117 13605	Jumper 0402
9P17	4822 117 13605	Jumper 0402
9P29	4822 117 13605	Jumper 0402
9P30	4822 117 13605	Jumper 0402
9P39	4822 117 13605	Jumper 0402
9P40	4822 117 13605	Jumper 0402
9P43	4822 117 13605	Jumper 0402
9P44	4822 117 13605	Jumper 0402
9T10	4822 117 13605	Jumper 0402
9T11	4822 117 13605	Jumper 0402
9T12	4822 117 13605	Jumper 0402
9T13	4822 117 13605	Jumper 0402
9U03	4822 117 13605	Jumper 0402



5A10	2422 549 00287	Bead 220Ω 100MHz
5A11	2422 549 00287	Bead 220Ω 100MHz
5A12	2422 549 00287	Bead 220Ω 100MHz
5A13	2422 549 00287	Bead 220Ω 100MHz
5A14	2422 549 00287	Bead 220Ω 100MHz
5A15	2422 549 00287	Bead 220Ω 100MHz
5A16	2422 549 00287	Bead 220Ω 100MHz
5A17	2422 549 00287	Bead 220Ω 100MHz
5A18	2422 535 94565	0.56μH 10% 0603
5A64	2422 549 43062	Bead 600Ω at 100MHz
5A65	2422 549 43062	Bead 600Ω at 100MHz
5B10	2422 549 00287	Bead 220Ω 100MHz
5B11	2422 549 00287	Bead 220Ω 100MHz
5B12	2422 549 00287	Bead 220Ω 100MHz
5B17	2422 549 00287	Bead 220Ω 100MHz
5B18	2422 549 00287	Bead 220Ω 100MHz
5B20	2422 535 94778	22nH 5% 0603
5B65	3198 018 51080	1μH 10% 0603
5B67	3198 018 51080	1μH 10% 0603
5B69	3198 018 51080	1μH 10% 0603
5B71	3198 018 51080	1μH 10% 0603
5B73	3198 018 51080	1μH 10% 0603
5B75	3198 018 51080	1μH 10% 0603
5C00	2422 549 43769	Bead 30Ω at 100MHz
5C01	2422 549 43769	Bead 30Ω at 100MHz
5C02	2422 549 00287	Bead 220Ω 100MHz
5C03	2422 549 00287	Bead 220Ω 100MHz
5C04	2422 549 00287	Bead 220Ω 100MHz
5D10	2422 549 00287	Bead 220Ω 100MHz
5D11	2422 549 00287	Bead 220Ω 100MHz
5D12	2422 536 00137	33μH 10%
5D13	2422 536 00137	33μH 10%
5D14	2422 549 00287	Bead 220Ω 100MHz
5D15	2422 549 00287	Bead 220Ω 100MHz
5D16	2422 549 00287	Bead 220Ω 100MHz
5G01	2422 549 42896	Bead 120Ω 100MHz
5G02	2422 549 42896	Bead 120Ω 100MHz
5H02	2422 549 45325	Bead 67Ω at 100MHz
5H03	2422 549 00287	Bead 220Ω 100MHz
5I02	2422 549 42896	Bead 120Ω 100MHz
5J00	2422 549 42896	Bead 120Ω 100MHz
5J01	2422 549 42896	Bead 120Ω 100MHz
5J02	2422 549 42896	Bead 120Ω 100MHz
5J03	2422 549 42896	Bead 120Ω 100MHz
5J04	2422 549 42896	Bead 120Ω 100MHz
5J05	2422 549 42896	Bead 120Ω 100MHz
5J06	2422 549 42896	Bead 120Ω 100MHz
5J07	2422 549 42896	Bead 120Ω 100MHz
5J10	4822 051 20008	Jumper 0805
5J11	4822 051 20008	Jumper 0805
5J12	4822 051 20008	Jumper 0805
5J50	2422 549 45325	Bead 67Ω at 100MHz
5J52	2422 549 45325	Bead 67Ω at 100MHz
5J54	2422 549 45325	Bead 67Ω at 100MHz
5J56	2422 549 45325	Bead 67Ω at 100MHz
5J58	2422 549 45325	Bead 67Ω at 100MHz
5J60	2422 549 45325	Bead 67Ω at 100MHz
5L50	2422 549 43769	Bead 30Ω at 100MHz
5L51	2422 549 00287	Bead 220Ω 100MHz

5L52	2422 549 00287	Bead 220Ω 100MHz
5LA1	2422 549 43062	Bead 600Ω at 100MHz
5LA2	2422 549 43062	Bead 600Ω at 100MHz
5LA3	2422 549 43062	Bead 600Ω at 100MHz
5LN0	2422 549 43062	Bead 600Ω at 100MHz
5LN1	2422 549 43062	Bead 600Ω at 100MHz
5LN2	2422 549 43062	Bead 600Ω at 100MHz
5LN3	2422 549 43062	Bead 600Ω at 100MHz
5LN4	2422 549 43062	Bead 600Ω at 100MHz
5M00	2422 549 00287	Bead 220Ω 100MHz
5M02	2422 549 00287	Bead 220Ω 100MHz
5M03	2422 549 00287	Bead 220Ω 100MHz
5M09	2422 549 00287	Bead 220Ω 100MHz
5M10	2422 549 00287	Bead 220Ω 100MHz
5M11	2422 549 00287	Bead 220Ω 100MHz
5M12	2422 549 00287	Bead 220Ω 100MHz
5Q01	2422 549 43062	Bead 600Ω at 100MHz
5Q02	2422 549 43062	Bead 600Ω at 100MHz
5Q03	2422 549 43062	Bead 600Ω at 100MHz
5Q04	2422 549 43062	Bead 600Ω at 100MHz
5Q07	2422 549 00287	Bead 220Ω 100MHz
5Q08	2422 549 00287	Bead 220Ω 100MHz
5T11	2422 549 00287	Bead 220Ω 100MHz
5T20	2422 549 00287	Bead 220Ω 100MHz
5T21	2422 549 00287	Bead 220Ω 100MHz
5T23	2422 549 00287	Bead 220Ω 100MHz
5T24	2422 549 00287	Bead 220Ω 100MHz
5T25	2422 549 00287	Bead 220Ω 100MHz
5T26	2422 549 00287	Bead 220Ω 100MHz
5T27	2422 549 43062	Bead 600Ω at 100MHz
5T28	2422 549 00287	Bead 220Ω 100MHz
5U00	2422 536 00671	10μH 20%
5U02	2422 536 00779	10μH 20%
5U03	2422 536 00671	10μH 20%
5U35	2422 549 00287	Bead 220Ω 100MHz
5U36	2422 549 00287	Bead 220Ω 100MHz
5U37	2422 549 00287	Bead 220Ω 100MHz
5U38	2422 549 00287	Bead 220Ω 100MHz



6A11	4822 130 11397	BAS316
6C00	4822 130 11397	BAS316
6C01	4822 130 11397	BAS316
6C02	4822 130 11397	BAS316
6C03	4822 130 11397	BAS316
6D10	4822 130 11397	BAS316
6D11	9340 548 69115	PDZ27B
6D12	4822 130 11397	BAS316
6G01	9322 134 46685	SML-310MT
6H00	9322 134 46685	SML-310MT
6H01	4822 130 11397	BAS316
6H03	4822 130 11397	BAS316
6H07	9340 566 10115	BAV99S
6H10	4822 130 11416	PDZ6.8B
6H11	4822 130 11416	PDZ6.8B
6H12	4822 130 11416	PDZ6.8B
6I00	9340 548 68115	PDZ24B
6I01	9340 566 10115	BAV99S
6I02	9340 548 68115	PDZ24B
6I08	9340 548 68115	PDZ24B
6I09	9340 548 68115	PDZ24B
6I0A	9340 548 68115	PDZ24B
6I0D	9340 548 68115	PDZ24B
6I0F	9340 548 68115	PDZ24B
6I0H	9340 548 68115	PDZ24B
6I0L	9340 548 68115	PDZ24B
6I0N	9340 548 68115	PDZ24B
6I0P	9340 548 68115	PDZ24B
6I11	9340 548 68115	PDZ24B
6J01	3198 020 55680	BZX384-C5V6
6J06	9322 134 46685	SML-310MT
6J07	4822 130 11397	BAS316
6J08	4822 130 80622	BAT54
6M10	9322 149 99685	BZX384-C3V6-V
6U11	9322 159 70685	MM3Z9V1
6U12	4822 130 11397	BAS316
6U21	4822 130 11152	UDZ18B
6U22	4822 130 11397	BAS316
6U23	4822 130 11397	BAS316



7A00	9352 767 55557	PNX3000HL/N3
7A04	9322 187 67668	TS482IS
7A05	9322 185 74668	LM324P
7A08	3198 010 42310	BC847BW
7A10	3198 010 42310	BC847BW
7A11	3198 010 42310	BC847BW
7A14	9340 219 30115	BC817-25W
7A15	3198 010 42320	BC857BW
7A16	9340 219 30115	BC817-25W

7A17	3198 010 42310	BC847BW
7B25	9322 213 41685	LD3985M18
7B45	4822 209 17398	LD1117DT33
7B50	9352 822 42557	TD49970HS/8/C3
7C00	HDMI 1 SW	For SW see item 0802
7C01	9322 235 45685	AD8190ACPZ
7C02	HDMI 2 SW	For SW see item 0802
7C03	3198 010 42310	BC847BW
7C04	3198 010 42310	BC847BW
7C05	3198 010 42310	BC847BW
7D10	9322 213 35668	LM339P
7D11	9340 425 20115	BC847BS
7D12	9340 425 20115	BC847BS
7D14	3198 010 42310	BC847BW
7D15	3198 010 44350	BC807-25W
7D16	9340 425 30115	BC847BPN
7D17	9340 219 30115	BC817-25W
7D18	9322 229 29668	PowFet SI4559EY-E3
7D19	3198 010 42310	BC847BW
7D20	3198 010 44350	BC807-25W
7D21	9340 425 30115	BC847BPN
7D22	9340 219 30115	BC817-25W
7D23	9322 229 29668	PowFet SI4559EY-E3
7D24	9340 219 30115	BC817-25W
7D25	9340 425 30115	BC847BPN
7D26	9340 425 30115	BC847BPN
7G00	9322 221 66668	XC3S200-4TQG144C
7G01	9322 222 49668	XCFO1SV8Q20C
7G03	9322 215 24668	LD1117DT12
7G35	9340 425 20115	BC847BS
7G37	3198 010 44310	PDTC114EU
7J00	9352 811 95557	PNX2018E/M1E03
7J01	3198 010 42310	BC847BW
7J02	9340 425 30115	BC847BPN
7J08	9322 204 10685	SI3441BDV
7J09	3198 010 42310	BC847BW
7J33	9340 425 20115	BC847BS
7L50	9322 228 06671	K4D261638I-LC40
7LA7	Standby SW	For SW see item 0802
7LB2	9340 425 20115	BC847BS
7LB5	3198 010 42310	BC847BW
7M01	3198 010 42310	BC847BW
7M05	9322 213 43685	LD3985M33
7M06	9322 218 04685	LD3985M122
7M11	3198 010 44310	PDTC114EU
7P14	Main NVM SW	For SW see item 0802
7P15	9351 750 00118	74HC4066PW
7P16	3198 010 44310	PDTC114EU
7P17	3198 010 44310	PDTC114EU
7P18	3198 010 44210	PDTA114EU
7P80	Main SW	For SW see item 0802
7T10	9322 202 58668	LD1117DT50
7T12	3198 010 42310	BC847BW
7T13	9322 183 24669	LA7795T-E
7T20	9340 425 30115	BC847BPN
7T21	9322 163 75685	SI2306DS
7T22	9322 211 68668	NXT2004
7U00	9322 207 46668	NCP5422AD
7U01	9322 160 70668	SI4936ADY
7U03	9322 160 70668	SI4936ADY
7U05	9340 425 20115	BC847BS
7U07	9340 219 30115	BC817-25W
7U10	9340 425 10115	BC857BS
7U13	9340 425 30115	BC847BPN
7U15	9340 425 20115	BC847BS
7U24	3198 010 42310	BC847BW
7U25	9322 160 70668	SI4936ADY
7U27	9322 192 16685	TS2431AI
7U28	9340 575 87118	PHD38N02LT
7V00	9352 803 38557	PNX8552EH/M2/S1
7V01	9322 236 10671	K4D551638H-LC50
7V02	9322 236 10671	K4D551638H-LC50

Side A/V Panel [D]

Various

1301	2422 026 05133	Connector SVHS 4p f
1302	2422 026 05807	Sckt CINCH 3p f YeWhRd
1303	2422 026 05703	Socket Cinch 1p f
1303	4822 267 31014	Sckt headphone
1304	2422 025 10655	Connector 11p m
1308	2422 033 00486	Socket USB 4p F
1309	2422 025 09406	Connector 4p m
1310	2422 025 10768	Connector 3p m



2301	4822 126 11785	47pF 5% 50V 0603
2302	4822 126 11785	47pF 5% 50V 0603

2303	4822 122 33761	22pF 5% 50V
2304	4822 126 11785	47pF 5% 50V 0603
2305	2020 552 94427	100pF 5% 50V
2306	2020 552 94427	100pF 5% 50V
2307	2238 916 15641	22nF 10% 25V 0603
2308	2238 916 15641	22nF 10% 25V 0603
2309	5322 126 11583	10nF 10% 50V 0603
2310	5322 126 11583	10nF 10% 50V 0603
2311	4822 122 33761	22pF 5% 50V
2312	2020 004 90297	100µF 20% 16V

—WW—

3301	4822 051 30759	75Ω 5% 0.062W
3302	4822 051 30759	75Ω 5% 0.062W
3303	4822 051 30109	10Ω 5% 0.062W
3304	4822 051 30101	100Ω 5% 0.062W
3305	4822 051 30109	10Ω 5% 0.062W
3306	4822 051 30101	100Ω 5% 0.062W
3307	4822 051 30101	100Ω 5% 0.062W
3308	4822 051 30101	100Ω 5% 0.062W
3309	4822 117 13632	100kΩ 1% 0603 0.62W
3310	4822 051 30101	100Ω 5% 0.062W
3311	4822 117 13632	100kΩ 1% 0603 0.62W
3312	4822 051 30103	10kΩ 5% 0.062W
3313	4822 051 30103	10kΩ 5% 0.062W
4301	4822 051 30008	Jumper 0603
4302	4822 051 30008	Jumper 0603
4308	4822 051 30008	Jumper 0603
4309	4822 051 30008	Jumper 0603
4310	4822 051 30008	Jumper 0603
4311	4822 051 30008	Jumper 0603

—W—

5300	2422 549 44197	Bead 220Ω at 100MHz
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—D—

6301	9322 146 61685	DF3A6.8FU
6302	9322 146 61685	DF3A6.8FU
6303	9322 146 61685	DF3A6.8FU
6304	9322 146 61685	DF3A6.8FU
6305	9322 146 61685	DF3A6.8FU
6306	9322 146 61685	DF3A6.8FU
6307	9322 146 61685	DF3A6.8FU

Keyboard Control Board [E]

Various

1011	4822 276 13775	Switch 1p 0.1A 12V
1012	4822 276 13775	Switch 1p 0.1A 12V
1013	4822 276 13775	Switch 1p 0.1A 12V
1014	4822 276 13775	Switch 1p 0.1A 12V
1015	4822 276 13775	Switch 1p 0.1A 12V
1016	4822 276 13775	Switch 1p 0.1A 12V
1M01	2422 025 10775	Connector 3p m

—WW—

3010	4822 051 30391	390Ω 5% 0.062W
3011	4822 051 30561	560Ω 5% 0.062W
3012	3198 021 31820	1.8kΩ 5% 0.062W 0603
3013	4822 051 30151	150Ω 5% 0.062W
3014	4822 117 12968	820Ω 5% 0.62W
3015	4822 051 30008	Jumper 0603
3016	4822 051 30008	Jumper 0603
3017	4822 051 30008	Jumper 0603
4001	4822 051 30008	Jumper 0603

—D—

6013	4822 130 11564	UDZ3.9B
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IR & LED Panel [J]

—II—

2001	2020 552 00134	22µF 20% 6.3V 0805
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—WW—

3010	4822 051 30331	330Ω 5% 0.062W
3011	4822 051 30102	1kΩ 5% 0.062W
3012	4822 051 30682	6.8Ω 5% 0.062W
3013	4822 117 12968	820Ω 5% 0.62W

3014	4822 051 30683	68kΩ 5% 0.062W
3016	3198 021 32250	2.2MΩ 5% 0603
3018	3198 021 32250	2.2MΩ 5% 0603
3019	4822 051 30151	150Ω 5% 0.062W
3020	4822 051 30151	150Ω 5% 0.062W
4001	4822 051 30008	Jumper 0603
4002	4822 051 30008	Jumper 0603
4004	4822 051 30008	Jumper 0603
4005	4822 051 30008	Jumper 0603
4010	4822 051 30008	Jumper 0603
4012	4822 051 30008	Jumper 0603
4015	4822 051 30008	Jumper 0603
4016	4822 051 30008	Jumper 0603
4017	4822 051 30008	Jumper 0603
4019	4822 051 30008	Jumper 0603

—D—

6010	9322 243 77676	LED L-174A2PBC
6011	9322 244 07676	LED L-174A2IT-TNB5-19
6012	4822 130 11564	UDZ3.9B

7010	9322 243 06671	IR Receiver
7011	5322 130 60159	BC846B
7012	5322 130 60159	BC846B

AmbiLight Interconnection Panel [M]

Various

0806	3139 127 09711	Software
1201	2422 540 00017	Reson. 60MHz CSTCW
1405	2422 025 18772	Connector 30p m
1406	2422 025 18772	Connector 30p m
1407	2422 549 45325	Bead 67Ω at 100MHz
1408	2422 549 45325	Bead 67Ω at 100MHz
1409	2422 549 45325	Bead 67Ω at 100MHz
1410	2422 549 45325	Bead 67Ω at 100MHz
1411	2422 549 45325	Bead 67Ω at 100MHz
1412	2422 549 45325	Bead 67Ω at 100MHz
1413	2422 549 45325	Bead 67Ω at 100MHz
1414	2422 549 45325	Bead 67Ω at 100MHz
1415	2422 549 45325	Bead 67Ω at 100MHz
1416	2422 549 45325	Bead 67Ω at 100MHz
1417	2422 025 18779	Connector 4p m

—II—

2103	2022 552 05679	1µF 10% 16V 0805
2104	2020 552 00211	22µF 10% 16V 1210
2105	2020 552 00211	22µF 10% 16V 1210
2106	4822 124 11131	47µF 6.3V
2107	2238 586 59812	100nF 20% 50V 0603
2108	3198 035 03320	3.3nF 5% 50V 0402
2109	3198 035 03320	3.3nF 5% 50V 0402
2110	2020 552 00211	22µF 10% 16V 1210
2111	2022 031 00318	330µF 6.3V
2112	2020 552 96618	1nF 10% 50V 0402
2113	2238 586 59812	100nF 20% 50V 0603
2114	2022 552 05679	1µF 10% 16V 0805
2115	2020 552 96618	1nF 10% 50V 0402
2116	2022 552 05679	1µF 10% 16V 0805
2117	3198 035 03320	3.3nF 5% 50V 0402
2118	2238 586 59812	100nF 20% 50V 0603
2119	2020 552 94427	100pF 5% 50V
2120	3198 035 03320	3.3nF 5% 50V 0402
2121	2020 552 00211	22µF 10% 16V 1210
2123	2022 031 00318	330µF 6.3V
2124	2020 552 94427	100pF 5% 50V
2125	2238 586 59812	100nF 20% 50V 0603
2126	2020 552 96618	1nF 10% 50V 0402
2127	2238 586 59812	100nF 20% 50V 0603
2128	2238 586 59812	100nF 20% 50V 0603
2129	2020 552 96618	1nF 10% 50V 0402
2130	2022 552 05679	1µF 10% 16V 0805
2132	2238 586 59812	100nF 20% 50V 0603
2133	2238 586 59812	100nF 20% 50V 0603
2201	2022 552 05679	1µF 10% 16V 0805
2202	2020 552 96628	10nF 10% 16V 0402
2203	2020 552 96628	10nF 10% 16V 0402
2204	2020 552 96628	10nF 10% 16V 0402
2205	2020 552 96628	10nF 10% 16V 0402
2206	2020 552 96628	10nF 10% 16V 0402
2207	2020 552 96628	10nF 10% 16V 0402
2208	2020 552 96628	10nF 10% 16V 0402
2209	2020 552 96628	10nF 10% 16V 0402
2210	2020 552 96628	10nF 10% 16V 0402

2211	2020 552 96628	10nF 10% 16V 0402
2212	2020 552 96628	10nF 10% 16V 0402
2213	2020 552 96628	10nF 10% 16V 0402
2214	2020 552 96628	10nF 10% 16V 0402
2215	2022 552 05679	1µF 10% 16V 0805
2216	2020 552 96628	10nF 10% 16V 0402
2217	2020 552 96628	10nF 10% 16V 0402
2218	2238 586 59812	100nF 20% 50V 0603
2219	2022 552 05679	1µF 10% 16V 0805
2220	2022 552 05679	1µF 10% 16V 0805
2221	2020 552 96628	10nF 10% 16V 0402
2222	2020 552 96628	10nF 10% 16V 0402
2223	2020 552 00027	4.7µF 2% 6.3V 0603
2224	2020 552 96628	10nF 10% 16V 0402
2225	2020 552 96628	10nF 10% 16V 0402
2226	2020 552 96628	10nF 10% 16V 0402
2227	2020 552 96628	10nF 10% 16V 0402
2228	2020 552 96628	10nF 10% 16V 0402
2229	2020 552 96628	10nF 10% 16V 0402
2230	2022 552 05679	1µF 10% 16V 0805
2231	2020 552 96628	10nF 10% 16V 0402
2232	2020 552 96628	10nF 10% 16V 0402
2233	2022 552 05679	1µF 10% 16V 0805
2234	2020 552 96628	10nF 10% 16V 0402
2235	2020 552 96628	10nF 10% 16V 0402
2236	2020 552 96628	10nF 10% 16V 0402
2237	2020 552 96628	10nF 10% 16V 0402
2238	2022 552 05679	1µF 10% 16V 0805
2239	2020 552 96628	10nF 10% 16V 0402
2240	2020 552 96628	10nF 10% 16V 0402
2241	2020 552 96628	10nF 10% 16V 0402
2246	2020 552 96628	10nF 10% 16V 0402
2247	2020 552 96628	10nF 10% 16V 0402
2248	2020 552 96628	10nF 10% 16V 0402
2249	2020 552 96628	10nF 10% 16V 0402
2250	2020 552 96628	10nF 10% 16V 0402
2251	2020 552 96628	10nF 10% 16V 0402
2252	2020 552 96628	10nF 10% 16V 0402
2253	2020 552 96628	10nF 10% 16V 0402
2254	2020 552 96628	10nF 10% 16V 0402
2255	2020 552 96628	10nF 10% 16V 0402
2256	2020 552 96628	10nF 10% 16V 0402
2257	2020 552 96628	10nF 10% 16V 0402
2258	2020 552 96628	10nF 10% 16V 0402
2259	2020 552 96628	10nF 10% 16V 0402
2260	2020 552 96628	10nF 10% 16V 0402
2261	2020 552 96628	10nF 10% 16V 0402
2262	2020 552 96628	10nF 10% 16V 0402
2301	2238 586 59812	100nF 20% 50V 0603
2302	2238 586 59812	100nF 20% 50V 0603
2303	2022 552 05679	1µF 10% 16V 0805
2304	2022 552 05679	1µF 10% 16V 0805
2305	2238 586 59812	100nF 20% 50V 0603
2401	2238 869 15109	10pF 5% 50V 0402
2402	2238 869 15109	10pF 5% 50V 0402
2403	2238 869 15109	10pF 5% 50V 0402
2404	2238 869 15109	10pF 5% 50V 0402
2405	2238 869 15109	10pF 5% 50V 0402
2406	2238 869 15109	10pF 5% 50V 0402
2407	2238 869 15109	10pF 5% 50V 0402
2408	2238 869 15109	10pF 5% 50V 0402
2409	2238 869 15109	10pF 5% 50V 0402
2410	2238 869 15109	10pF 5% 50V 0402
2411	2238 869 15109	10pF 5% 50V 0402
2412	2238 869 15109	10pF 5% 50V 0402
2413	2238 869 15109	10pF 5% 50V 0402
2414	2238 869 15109	10pF 5% 50V 0402
2415	2238 869 15109	10pF 5% 50V 0402
2416	2238 869 15109	10pF 5% 50V 0402
2417	2238 869 15109	10pF 5% 50V 0402
2418	2238 869 15109	10pF 5% 50V 0402
2419	2238 869 15109	10pF 5% 50V 0402
2420	2238 869 15109	10pF 5% 50V 0402
2423	2238 869 15101	100pF 5% 50V 0402
2424	2238 869 15101	100pF 5% 50V 0402

—WW—

3101	4822 117 13606	10kΩ 5% 0.01W 0402
3102	4822 051 30109	10Ω 5% 0.062W
3103	4822 051 30008	Jumper 0603
3104	4822 117 13606	10kΩ 5% 0.01W 0402
3105	4822 051 30109	10Ω 5% 0.062W
3106	3198 031 06820	6.8kΩ 5% 0.01W 0402
3107	3198 031 03320	3.3kΩ 5% 0402
3108	4822 117 13606	10kΩ 5% 0.01W 0402
3109	4822 117 13545	100Ω 1% 0402
3110	4822 117 13606	10kΩ 5% 0.01W 0402
3111	4822 117 13613	2.2Ω 5% 0603
3112	4822 117 13606	10kΩ 5% 0.01W 0402
3113	4822 117 13601	22kΩ 5% 0402
3114	5322 117 11726	10Ω 5%
3115	4822 117 13602	2.2kΩ 5% 0.01W 0402

3116	4822 117 13606	10kΩ 5% 0.01W 0402
3117	2322 706 71002	1kΩ 1% 0402
3118	2322 706 71002	1kΩ 1% 0402
3119	3198 031 06890	68Ω 5% 0402
3120	4822 051 30109	10Ω 5% 0.062W
3121	4822 051 30008	Jumper 0603
3122	4822 051 30109	10Ω 5% 0.062W
3123	4822 117 13596	220Ω 5% 0.01W 0402
3124	3198 031 06820	6.8kΩ 5% 0.01W 0402
3125	4822 051 30109	10Ω 5% 0.062W
3126	4822 117 13606	10kΩ 5% 0.01W 0402
3127	3198 031 06890	68Ω 5% 0402
3128	3198 031 04720	4.7kΩ 5% 0402
3129	2322 706 74701	470Ω 1% 0402
3130	4822 117 13613	2.2Ω 5% 0603
3131	3198 031 03320	3.3kΩ 5% 0402
3132	3198 031 06820	6.8kΩ 5% 0.01W 0402
3134	4822 117 13548	1kΩ 5% 0402
3135	3198 031 06820	6.8kΩ 5% 0.01W 0402
3136	3198 031 06820	6.8kΩ 5% 0.01W 0402
3137	2322 706 74701	470Ω 1% 0402
3138	4822 117 13548	1kΩ 5% 0402
3139	3198 031 06820	6.8kΩ 5% 0.01W 0402
3140	3198 031 06820	6.8kΩ 5% 0.01W 0402
3141	3198 031 06820	6.8kΩ 5% 0.01W 0402
3142	3198 031 03930	39kΩ 5% 0402
3143	3198 031 03320	3.3kΩ 5% 0402
3144	3198 031 03320	3.3kΩ 5% 0402
3145	4822 117 13606	10kΩ 5% 0.01W 0402
3146	2322 706 71002	1kΩ 1% 0402
3201	4822 117 11297	100kΩ 5% 0.1W
3202	4822 117 13546	47Ω 5% 0402
3203	3198 031 04720	4.7kΩ 5% 0402
3204	3198 031 04720	4.7kΩ 5% 0402
3205	3198 031 04720	4.7kΩ 5% 0402
3206	3198 031 01050	1MΩ 5% 0402
3209	4822 117 13548	1kΩ 5% 0402
3210	4822 117 13606	10kΩ 5% 0.01W 0402
3212	3198 031 04720	4.7kΩ 5% 0402
3213	4822 117 13606	10kΩ 5% 0.01W 0402
3215	3198 031 04720	4.7kΩ 5% 0402
3216	4822 117 13545	100Ω 1% 0402
3217	4822 117 13545	100Ω 1% 0402
3218	4822 117 13545	100Ω 1% 0402
3222	4822 117 13545	100Ω 1% 0402
3223	4822 117 13545	100Ω 1% 0402
3224	4822 117 13545	100Ω 1% 0402
3234	3198 031 04720	4.7kΩ 5% 0402
3235	4822 117 13545	100Ω 1% 0402
3236	4822 117 13606	10kΩ 5% 0.01W 0402
3301	3198 031 04720	4.7kΩ 5% 0402
3302	3198 031 04720	4.7kΩ 5% 0402
3303	3198 031 04730	47Ω 5% 0402
3304	4822 117 13548	1kΩ 5% 0402
3305	4822 117 13546	47Ω 5% 0402
3306	3198 031 04730	47Ω 5% 0402
3307	4822 117 13606	10kΩ 5% 0.01W 0402
3308	4822 117 13606	10kΩ 5% 0.01W 0402
3309	4822 117 13545	100Ω 1% 0402
3310	4822 117 13606	10kΩ 5% 0.01W 0402
3405	4822 117 13545	100Ω 1% 0402
3406	4822 117 13545	100Ω 1% 0402
3407	4822 117 13545	100Ω 1% 0402
3408	4822 117 13545	100Ω 1% 0402
3409	4822 117 13545	100Ω 1% 0402
3410	4822 117 13545	100Ω 1% 0402
3411	4822 117 13545	100Ω 1% 0402
3417	4822 117 13605	Jumper 0402
3418	4822 117 13605	Jumper 0402
4101	4822 117 13605	Jumper 0402
4401	4822 051 30008	Jumper 0603
4402	4822 051 30008	Jumper 0603
4403	4822 051 30008	Jumper 0603
4404	4822 051 30008	Jumper 0603
4407	4822 117 13605	Jumper 0402
4408	4822 117 13605	Jumper 0402
4409	4822 117 13605	Jumper 0402
4410	4822 117 13605	Jumper 0402
4413	4822 051 30008	Jumper 0603
4414	4822 051 30008	Jumper 0603
4415	4822 051 30008	Jumper 0603
4416	4822 051 30008	Jumper 0603

5103	2422 549 45748	220Ω 100MHz 0603
5104	2422 536 00779	10μH 20%
5105	2422 549 45748	220Ω 100MHz 0603
5106	2422 536 00671	10μH 20%
5107	2422 536 00671	10μH 20%
5201	2422 549 45748	220Ω 100MHz 0603
5202	2422 549 45748	220Ω 100MHz 0603
5203	2422 549 45748	220Ω 100MHz 0603

5204	2422 549 45748	220Ω 100MHz 0603
5205	2422 549 45748	220Ω 100MHz 0603
5206	2422 549 45748	220Ω 100MHz 0603
5207	2422 549 45748	220Ω 100MHz 0603
5301	2422 549 45748	220Ω 100MHz 0603
5302	2422 549 45748	220Ω 100MHz 0603



6101	4822 130 11397	BAS316
6102	4822 130 11397	BAS316
6103	4822 130 11397	BAS316
6104	4822 130 11152	UDZ18B
6301	9322 134 46685	SML-310MT
6302	9322 134 46685	SML-310MT
6303	3198 020 55680	BZX384-C5V6
6304	4822 130 11148	UDZ4.7B



7101	9322 207 46668	NCP5422AD
7102	9340 425 30115	BC847BPN
7103	9322 187 04668	LF25ABDT
7104	9322 160 70668	SI4936ADY
7105	9322 160 70668	SI4936ADY
7106	9340 425 20115	BC847BS
7107	9340 219 30115	BC817-25W
7201	9322 206 45668	M25P05-AVMN6P
7202	Pacific 3	For SW see item 0806
7204	3198 010 42310	BC847BW
7302	9322 204 10685	SI3441BDV
7303	3198 010 42310	BC847BW

11. Revision List

Manual xxxx xxx xxxx.0

- First release.